REPORT

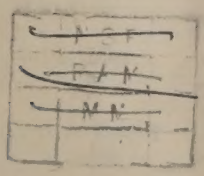
OF THE

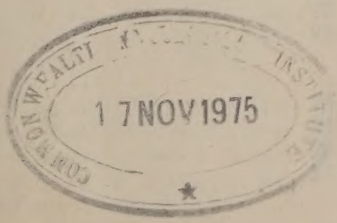
DIRECTOR-GENERAL OF FORESTS

FOR THE YEAR ENDED

31 MARCH 1975

Presented to the House of Representatives
Pursuant to Section 68 of the Forests Act 1949





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THE DIRECTOR-GENERAL OF FORESTS

to the Hon. C. J. Moyle, Minister of Forests

Wellington, 23 May 1975.

SIR,

I have the honour to present, pursuant to section 68 of the Forests Act 1949, the annual report of the operations of the New Zealand Forest Service for the year ended 31 March 1975.

I have, etc.,

M. J. CONWAY, Director-General of Forests.

Hon. C. J. MOYLE,
Minister of Forests,
Wellington.

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FOREST POLICY AND HIGHLIGHTS

SECOND FORESTRY DEVELOPMENT CONFERENCE

The immediate need generated by the first Forestry Development Conference held in 1969 was to service the National Development Council with projections on domestic demand for forest products, export potential, and training, manpower, and research requirements, and to advise Government on matters such as stumpage determination, industrial relations, and afforestation programmes.

In the 5 years that have elapsed there have been two important developments. The first has been an increasing appreciation of the many and varied values of indigenous forests and the second the knowledge gained on firm proposals and prospects for exotic forestry over the next decade. The Forestry Development Council considered it opportune to reappraise the potential of the forestry sector in stimulating regional development and maintaining or increasing its already substantial contribution to export earnings, and at the same time to reassess the indigenous forest situation. To ensure successful public and private contributions to forestry development planning, the council obtained the approval of the Minister of Forests to hold a second conference, in two stages. At the first meeting in November 1974 a series of introductory addresses was presented, backed up by 30 contribution papers from State, company, and private organisations and individuals. Over 150 people attended, including representatives of environmental organisations.

Following this meeting the council established eight working parties with members drawn from the whole field of interest in forestry. They have prepared reports and recommendations on the two conference themes—Forestry Development Over the Next Decade and Indigenous Forest Policy. These reports and recommendations will be discussed at the second session of the conference in May 1975, after which the council will make final recommendations to the Minister of Forests.

As far as the Forest Service is directly concerned, it is reassuring that no major disagreement has been recorded at working party level on its revised policy for management of indigenous State forests.

REVISED INDIGENOUS FOREST POLICY

> "Every physical development comprises two actions; at the same time that something new is created, what previously existed is destroyed. One of the principal aims of planning, therefore, must be to see that what is created is better attuned to the requirements of society than what is extinguished."*

Here in New Zealand it has become increasingly evident that the requirements of present-day society differ markedly from those of previous generations. This is reflected in changing attitudes towards the exploitation of our natural resources and in strong opposition in many quarters to the depletion of those that are non-renewable. In recognition of this expression of public opinion, a major review of indigenous

*Extract: White Paper presented to the U.K. Parliament by the Department of the Environment. Scottish Office, Welsh Office, September 1974.

forest policy was carried out by the Forest Service in 1974, culminating in the presentation of a revised policy to the Forestry Development Conference. It coincided, appropriately enough, with the centennial of the passing of the first Forests Act in 1874.

One hundred years ago, and indeed up to the beginning of the First World War, the lowland forests of New Zealand were regarded as temporary occupants of land required for pasture. Thus it was, particularly in the North Island, that most of our farms—the acknowledged mainstay of our economy and hence our material well-being—have been carved out of our indigenous forest estate. In more recent times the process of replacing merchantable forest with pasture has slowed down, but has been offset to some extent by the conversion of indigenous forest to exotic plantations of higher yield, in terms of wood volume.

If greater production of wood and higher productivity were the sole criterion, this practice of substituting exotic forest for native would be fully justified and would normally be as acceptable as the traditional alternative of producing more wool, meat, and dairy produce. However, the requirements of society do change and, as mentioned in the revised policy statement, our growing population, slowly but surely becoming more urbanised, has come to attach to our indigenous forests values which hitherto have taken second place.

There is no denying that our native forests have a variety of uses and can satisfy diverse needs. They can and should be managed to meet the social and economic demands of the community, but equally these demands need to be clearly defined and be based on an appreciation of all the factors involved and of the consequences of following a particular course of action.

The policy statement referred to outlined the prospects of managing the remaining merchantable State forest for timber production while retaining or restoring a forest structure which preserves, or provides anew, many of the qualities for which the original forest is valued. This objective can be achieved by a system of selective felling whereby only a proportion of the usable trees is removed either annually or periodically, or, in the case of certain species, such as beech, by a near complete removal of the mature crop and its subsequent more uniform regeneration. Sustained-yield management by selective felling is a classic method of managing forests, but its widespread implementation in New Zealand is not without problems. One of the main difficulties is the size, distribution, and nature of the resource at our disposal. Production of timber must be related to the area available, the composition of the forest, and the growth rates of the major species, especially rimu. In our present situation a sudden and wholesale swing to sustained yield management would inevitably lead to a marked drop in timber production, to the closing down of sawmills, and to the loss of livelihood of several rural communities. A transition period is obviously called for, during which time the sawmilling industry can adjust itself and the market become conditioned to change. During this period, hopefully, alternative or supplementary sources of supply can be provided in the form of exotic forests composed principally of radiata pine.

Two other aspects must be considered. Selective logging will almost certainly result in higher production costs, which the sawmiller alone cannot be expected to absorb and which must therefore be passed on to

the consumer, assuming that a lower return to the Forest Service, and ultimately the taxpayer, by way of reduced stumpages is not acceptable. This latter course would in effect subsidise the price of indigenous wood and disguise its real worth in relation to exotic wood or other substitutes.

Apart from paying the price for sustained yield management because of higher unit production costs, the consumer must face up to the fact that with reduced supplies he will have to be far more discriminating in the use that is made of high-quality native timbers. He will also have to more readily accept a wider range of products made from exotic wood, or willingly pay more for imported special-purpose wood of superior quality.

Forest policy is but one policy. It must evolve with, and be accommodated within, other major policies of Government, policies which have regard to the wider fabric of society as a whole, to the needs of people for employment, particularly in rural centres, and to their expectations of a higher standard of living and the associated educational and cultural benefits.

Therefore the revised policy statement for State forests does not rule out entirely the conversion of indigenous forest to exotic species. What it does do is to declare that the decision to clear fell State forest should not be made before the need to do so is clearly evident; that is, when other non-forested land in the region is either unavailable or unsuitable for further development to achieve the Government's social and economic goals regionally or nationally.

The reappraisal of forest policy gives much more emphasis than previously to retaining indigenous forests as such for the time being, or to managing them by selective or partial felling rather than clear felling. In this way options are left open for others to determine what should be done in the circumstances prevailing in the future. If the revised policy is endorsed, responsibility will be shared by present and future generations. Each will have to play its part in the light of the knowledge available to it and in accordance with the demands at that time. Each will have to decide to what extent our indigenous forests should be released for farm development or exotic timber production, how much should be retained for a variety of other uses, and how they should be managed.

One thing is certain: further limitations of wood production from State indigenous forests inherent in the implementation of this new policy will have to be offset by even greater reliance on quickly renewable exotic forests. This underlines the need for maintaining a high level of new planting by the State and by the private sector. Indigenous forest policy cannot be divorced from that for exotic forests or vice versa. The 1974–75 Forestry Development Conference is being held to help determine the direction each should take.

ASSESSMENT OF INDIGENOUS FORESTS

The nature and extent of the remaining indigenous forests were assessed, region by region, during 1974 and the results presented at the November session of the Forestry Development Conference. Though

this survey was comprehensive, it was not a major inventory (as was done between 1946 and 1955) and accordingly the results, main details of which follow, are provisional.

- The total area of indigenous forest is about 6.2 million ha, 2.5 million ha in the North Island and 3.7 million ha in the South Island, including Stewart Island.
- Of this area nearly half (3 million ha) is State forest and a quarter (1.5 million ha) is in national parks and reserves.
- Over two-thirds (4.3 million ha) of the indigenous forest is protection forest, the retention of which, apart from conserving soil and water, will provide in part for the preservation of native flora and fauna, scientific reservations, and recreation.
- Of the remaining 1.9 million ha of indigenous forest more than a third has been logged and slightly more than half (988 000 ha) is virgin forest. About 16 percent of the latter is legally unavailable as production forest, being in national parks and allied reserves, and a similar percentage is privately owned. Thus the Forest Service controls about 650 000 ha of merchantable unlogged indigenous forest, three-quarters of which is in the South Island.
- The total area of State indigenous production forest is estimated to be 875 000 ha.

BEECH FOREST PROJECTS

In October 1973 the Government approved the West Coast and Southland beech forest utilisation projects proceeding to the stage of inviting commercial proposals. This invitation was issued in April 1974, closing on 1 April 1975. In the case of the West Coast project area the quantity of wood under offer was 785 000 m^3 of pulpwood and 63 000 m^3 of sawlogs per annum. For Southland the volume was 170 000 m^3 annually of pulpwood only.

Considerable interest has been shown by New Zealand-based and Japanese companies. In issuing the invitation the Minister of Forests made it plain that no irrevocable commitment was being made for utilisation to proceed. All proposals received would be subjected to economic evaluation and to further environmental impact reporting before a final decision was made. The South Island Beech Management and Utilisation Council, which is charged with reporting independently to the Government on any proposal considered to have merit, met four times during the year and its members have inspected the forests in both project areas. Likewise the Scientific Co-ordinating Committee has had several meetings and has carried out field inspections, principally to assess the adequacy of areas set aside as reserves. Further research is being carried out by scientists of the Forest Service and other departments in forest hydrology, soil mapping and interpretation, fauna surveys, forest ecology, and silviculture.

The Forest Service has strengthened its staff on the West Coast and has established a management and utilisation unit to assess more accurately the implication of environmental constraints on utilisation, to refine logging methods, and to collect data which would assist in the evaluation of any proposals received.

FOREST PARKS

New parks—During the year two State forest parks were gazetted: Lake Sumner (73 895 ha) in Canterbury and Haurangi (15 148 ha) in southern Wairarapa. This brings the number of gazetted parks to 10. Part only of the Catlins Forest Park in Otago-Southland was also gazetted. The area of State forest land set aside in forest parks is now over 816 000 ha.

Proposed Kaimai-Mamaku Forest Park—Although the Minister of Forests had approved in March 1974 of steps being taken to establish a forest park of approximately 40 000 ha in the Kaimai-Mamaku Ranges, action has been deferred in view of public concern over the Forest Service's proposals for Mangatotara Forest in particular. These proposals were subject to an environmental impact report, which was audited by the Commission for the Environment. The commission drew attention to what it regarded as deficiencies in the report and recommended that any final decision to implement the forest management proposals outlined in the environmental impact report, or to set aside the Kaimai forest area as a forest park, national park, or some other form of reservation be deferred pending publication of the results of further studies and surveys. An additional reason for not proceeding with the gazettal of a forest park has been the submission of a petition (yet to be heard by the Lands and Agriculture Committee of the House of Representatives) calling for national park status.

The Forest Service has confirmed that no conversion to exotic species would take place in Mangatotara Forest for at least 5 years and has modified its proposals in respect of Katikati Forest more in keeping with the revised indigenous forest policy. In accordance with this policy any future utilisation of long-term timber reserve areas would involve selective logging and not clear felling.

Whakarewarewa Forest Park—The 10 forest parks proclaimed to date consist predominantly of indigenous forest valued for its water and soil conservation role, its aesthetic appeal, and the opportunity for recreation, usually of a strenuous nature. One of the distinguishing features of forest park status is that production forestry is not precluded, where warranted, in specified areas.

The concept of multiple use is not new in forestry and it is possible to demonstrate that exotic forests also can fulfil many roles. In particular it can be shown that timber production and recreation are not incompatible. Part of Whakarewarewa Forest, near Rotorua, one of the earliest exotic plantations in the country, is fast becoming a major tourist attraction with over 100 000 visitors a year. The forest's walking tracks, pony trails, and picnic spots, including those by the Blue and Green Lakes, are becoming increasingly popular with overseas visitors and New Zealanders alike. The forest also contains a fine grove of 70-year-old Californian redwoods which has been dedicated as a memorial to men of the Forest Service killed in the two world wars. It is now proposed that the older part of Whakarewarewa Forest, 3680 ha, will be the first exotic forest to be managed as a forest park. The major species are radiata pine, Corsican pine, Douglas fir, European larch, and eucalypts, with smaller amounts of other pines, redwoods,

and sweet chestnut. There are some areas of native bush and many native plants, particularly large ferns, occur as an understorey in the exotic stands.

Facilities will be expanded for greater recreational use of the forest and an information centre is planned. The opening of this environmentally attractive forest to the public, subject to the minimum of control needed for the safety of visitors, will at the same time allow a wider appreciation to be gained of the processes involved in sustained-yield forestry—planting, pruning and thinning, harvesting, and restocking.

PROGRESS IN AFFORESTATION

Final figures for State and private planting in 1973 excluding restocking, totalled 43 600 ha, an increase of 2300 ha on the level estimated for that year in last year's annual report. Afforestation by the Forest Service in 1973 amounted to 20 960 ha.

Provisional returns for 1974 indicate that some 46 000 ha has been planted with most of the increase occurring in the private sector, where new planting is estimated to have reached 25 000 ha.

The desirable level of afforestation over the next 10 years was one of the major topics introduced at the first session of the Forestry Development Conference in November 1974 and will be the subject of a recommendation to the Government by the Forestry Development Council after further discussion when the conference resumes in May 1975.

REGIONAL DEVELOPMENT PLANNING

A forestry development plan for the Otago region was recently completed. It indicates that a high level of afforestation in the area is justified in terms of the benefits which will be obtained from the development of forest industries in the area. The region has the capacity for the establishment of a large forest resource. Up to 110 000 ha could be achieved by the year 2000 if the present annual planting rate of 3240 ha is maintained.

Although the financial studies outlined in the development plan indicate that the profitability of forest growing is not as high as in some other areas of New Zealand, the social and economic benefits of establishing a wood-processing industry suited to the type and size of the wood resources which will become available make the Otago region a high-priority area for afforestation from both a regional and a national viewpoint.

FOREST INDUSTRY EXPANSION

The Tasman Pulp and Paper Company brought into commission in July 1974 its new continuous digester kraft pulp mill with a capacity of 400 t per day. At that time there was a world shortage of market pulp and the increased supplies were much needed to meet export sales contracts. Later in 1975 Tasman expects to be operating its third newsprint machine, which will use additional forest resources for groundwood pulp and absorb part of the company's increased production of kraft pulp.

Other notable expansions of industries using State forest resources include the planned increase early in 1976 of production to close to 700 t per day of refiner groundwood pulp for export at Whirinaki by Carter, Oji, Kokusaku Pan Pacific Ltd. N.Z. Forests Products Ltd. has announced the construction of a $9½ million plywood plant at Kinleith using peeler logs from its own plantations and from Kaingaroa Forest. The Fletcher Timber Company, which was awarded long-term cutting rights last year in Tairua, Athenree, and Maramarua State Forests, plans to begin producing sawn timber and thin particle board during 1976 in a new $7½ million plant at Kopu, near Thames. Manufacture of a new panel product, medium density fibreboard, by Canterbury Timber Products in an $11 million plant near Rangiora, is planned to begin early in 1976.

EFFECT OF OVERSEAS ECONOMIC CONDITIONS

Although the broad long-term world trends are expected to be those of increasing supply and demand, the forest sector is at present faced with some marketing problems as a result of a cyclic downturn in world economic growth. In particular, New Zealand's most important forest-product markets, Australia and Japan (which together have recently taken over 86 percent of our exports) are experiencing economic difficulties and reduced domestic consumption. This has resulted in a drop in both the volume and to some extent the price of New Zealand's exports (especially logs and sawn timber) to these important markets.

As a result of the recession in overseas economic growth, pulp and paper prices have ceased to rise. Many non-integrated paper mills are using up pulp stocks ordered during the recent period of shortage and this is leading to a temporary slackening of demand for market pulp. In these circumstances producers of market pulp the world over have traditionally preferred to lower production rather than reduce hard-won gains in prices. The New Zealand pulp and paper industry is now producing for stock rather than accept some of the lower prices being offered. The rationale for doing this is that the present fall in demand cannot be other than temporary, as few pulp and paper mills are being built at present relative to estimated demand increases. A recent North American survey of world newsprint, for example, indicates an increase in demand of 2.3 percent per annum during the next decade whereas the increase in supply, according to present capacity expansion projections, will not exceed 1.8 percent.

ASSISTANCE TO OVERSEAS FORESTRY DEVELOPMENT

As a result of the increased Government allocation of finance for overseas aid, there has been rapid growth in the number of requests for assistance in forestry. These have ranged from short-term visits to advise on specific projects to long-term investigation and planning by a team approach. Projects have involved creation of forest parks, exotic afforestation, inventory and development planning of natural forest resources, training of field and industry staff, and guidance on industrial processing. To cope with the expanded activity a senior officer has been appointed to co-ordinate these foreign aid activities.

Requests for assistance are expected to increase in the near future for both bilateral aid and technical co-operation assistance. This will apply particularly to exotic forest establishment and management, timber industry training, and high country catchment survey for vegetative rehabilitation. New Zealand experience and expertise in these fields is now well recognised overseas. The extent to which increased requests for assistance can be met will be limited by the availability of experienced staff.

The major development project with which the Forest Service has been actively involved is the Fiji Pine Scheme. This scheme, which aims at creating 75 000 ha of *Pinus caribaea*, has continued to expand and is now providing employment opportunities and better social and economic conditions in formerly remote village communities.

A team of experts in forest resource planning, afforestation, and logging has been sent to Peru and there has been steady progress in developing and maintaining assistance programmes in Malaysia, Indonesia, and Papua New Guinea. Inquiries for technical co-operation have been received from countries in the Middle East and the People's Republic of China.

Research has continued into coconut stem utilisation, which promises to be of major importance throughout South-east Asia and the Pacific Islands. Successful utilisation of coconut stems as building and fencing materials, power poles, or for furniture would have real economic advantages to the many countries which are faced with extensive replanting of coconut plantations over the next decade.

Training has continued as an important area of assistance and a large number of overseas students have attended a variety of courses at the Timber Industry Training Centre, Rotorua. Pacific islanders have attended the ranger training schools, and on-the-job training has been given in engineering, plant operation, and storekeeping as well as forest management. The department has also accepted overseas forestry officers under FAO fellowships for advanced study of forest management and planning.

Details of technical assistance provided during the year are given on pages 28–29.

STATE WOOD PRODUCTION AND SALES

During the year ended 31 March 1974 production of roundwood from State indigenous and exotic forests was 16 percent higher than in the previous year, the increase coming almost exclusively from exotic forests. The provisional estimate of roundwood removals for the year ended 31 March 1975 is 4 337 000 m^3.

The value of wood sold from State forests for the year ended December 1974 was $26.6 million compared with $27.1 million in 1973. Revenue from local sales would have been higher but for the fact that, in the interests of price stabilisation, stumpages have not been increased where the produce was of the same species and of similar quality to that previously sold from the same locality. In addition price reviews due under long-term sale contracts were deferred.

Major sales—Proposals were invited during the year for the utilisation over 10 years (with right of renewal for 10 years) of 45 307 m^3 of wood annually from Karioi State Forest near Waiouru. The purpose in calling for proposals was to secure fuller utilisation of the wood available as well as providing an outlet for the residues from existing sawmilling and forest operations. No final decision has been reached in respect of the proposals received for utilisation of this wood. In addition to this major offering short-term supplies of wood were advertised in continuation of the policy of affording existing small mills the opportunity to obtain some part of their total requirements from State forests.

Delays in the completion of additions to the Tasman Pulp and Paper Company's plant at Kawerau have meant a deferment in the uplift from Kaingaroa Forest of wood to which the company is entitled.

Log exports—The Forest Service continued its policy of scaling down log exports. As it happened, the actual reduction was somewhat more severe than had been planned due to a downturn in the Japanese market. As long-term forecasts show that Japan will for many years be a large importer of roundwood and wood-based products and other Asian and Pacific countries are also likely to require forest products in one form or another, it will be wise for New Zealand to continue to have available for export a variety of wood products ranging from logs through to highly processed papers. It is proposed, consistent with the development of local industry, to allocate a portion of the cut from State exotic forests to maintain a log export trade at a viable level.

Change to metric system—The basis on which Forest Service wood is sold was changed from imperial to metric measurement as from January 1975. Industry will take some time adjusting to the system, but so far there have been few serious problems.

COMMERCIAL DIVISION

Tax paid profits of $1,593,879 for the year ended 31 December 1974 reflect the benefits of a re-equipping and modernisation programme which has been progressively undertaken in recent years at the Waipa and Conical Hill sawmills. The trading results also reflect a strong demand for all timber products on both domestic and export markets and the opportunity to match production closely with capacity, particularly at Waipa.

As a large-scale manufacturing enterprise, the Commercial Division can no longer ignore trends within industry towards diversification and retailing. At the end of the year with domestic timber consumption showing some decline, coupled with a downturn in overseas orders, the disadvantage of Forest Service sawmills not having retail outlets close to areas of usage became increasingly evident. While good progress was made during the year in expanding retail sales from mill sites, further expansion is limited by the relative isolation of these sites from the larger centres of consumption.

Overseas consultants were engaged by the Forest Service and a prominent company to investigate types of industry for the best use of existing and future mill wastes and forest residues in Otago. Their

recommendations have been incorporated in a proposal which will be considered along with others likely to be received in response to the advertising of both State and private wood resources in June 1975.

Negotiations to transfer the New Zealand Railways sawmill at Mamaku to the Forest Service are still under way.

In accord with the Government's policy of decentralising departmental activities, head office staff of the Commercial Division have been transferred to Rotorua.

CONTROL OF NOXIOUS ANIMALS

The Caucus Committee appointed by the Government to investigate policy on noxious animals and related matters tabled its report in the House of Representatives in November 1974. The committee confirmed the continuing need for the Noxious Animals Act, which makes provision for the control or eradication of harmful species of wild animals. But in view of changed circumstances related to some aspects of noxious animal control, the committee recommended that the scope of the Act be widened. Of special importance are the recommendations to make provision for the licensing and control of commercial hunters, and for the licensing of safari hunting enterprises (though with prohibition of this activity on class VII and VIII lands and in national parks). The committee also recommended that the Forest Service be given clear responsibility for noxious animal control on land of all tenures.

Though the committee did not recommend that any animals should be removed from the Noxious Animals Act, it considered that recreational hunters could exercise control of specified animal populations in some areas of low erosion risk, subject to the Government's right to impose commercial or departmental hunting if the vegetation is not being adequately protected. An allied recommendation is that the Government pursue an active policy of providing public access to recreational lands of the Crown.

The report has been considered by Cabinet and approved in principle as a basis for future policy, with the Minister of Forests having responsibility for co-ordinating action through normal ministerial and departmental channels. A working party of officials has now been established to oversee the implementation of the Caucus Committee report.

PRODUCTION FORESTRY

MANAGEMENT

Working plans—During the year a further regional management plan—for State forests in Hawke's Bay—was approved. This applies to 146 000 ha (95 500 ha of indigenous forests managed for soil and water conservation and recreation, 42 000 ha of exotic forests, and 8500 ha of Maori land leased for afforestation). The plan provides for the establishment of a total of 80 000 ha of exotic forest to supply local Hawke's Bay timber markets and a large forest-products industry near Napier.

Approval of the Rimutaka Forest Park working plan brings the total forest park area under working plan control to 780 000 ha.

A further working plan for Maori land leased for afforestation in Auckland Conservancy has also been approved.

Climatic damage to forests—Between 16 and 22 March 1975 severe gales damaged forests along the west of the country. Damage was worst in Auckland, in young stands, and in Nelson, where there was severe windthrow in about 400 ha of exotic stands at Golden Downs Forest. There the older age classes were affected and a large volume of wood will have to be salvaged. The storm also damaged indigenous forest in North-west Nelson Forest Park. Meteorological records show that there were gusts up to 75 knots.

Forest diseases—The Swiss needle cast fungus (*Phæocryptopus gaeumannii*) mentioned in last year's report as affecting Douglas fir is causing considerable concern. So far it is only serious in the central North Island, where premature loss of foliage is causing substantial reduction of volume increment. The possible adoption of silvicultural practices similar to those found successful in Europe and of spraying to control the fungus are being investigated by the Forest Research Institute.

Logging—With a downturn in the market for logs towards the end of the year the volume produced by Forest Service logging gangs did not differ greatly from that in 1973. Logging at Golden Downs Forest, Nelson, declined because of a reduction in exports to Japan following the completion of the salvage of stands damaged by the Wahine gale of 1968 and subsequent lesser storms. The cyclone of mid-March 1975 will unfortunately set in motion further large-scale salvage.

Close liaison is being maintained with soil and water authorities in the development of national guidelines for logging and other forest operations. The careful selection of logging systems to suit the circumstances and detailed planning and control of the location and construction of roads, tracks, and other facilities can ensure maximum productivity from forest areas without undue disturbance.

Acquisition of land—The main acquisitions during the year were for additions to Whangapoua, Tairua, Mangatu, Golden Downs, and Otago Coast forests. As well, about 1000 ha south-east of Wanganui was bought to form the nucleus of a new production/protection forest. Largely because of rises in the price of land it was not possible to make all the acquisitions that had been programmed within approved policies.

Leasing of land for forestry—Plans are well advanced for the long-term leasing of Maori land in northern Hawke's Bay under new rental arrangements. These give the landowners the option each year of being paid a guaranteed annual rental or electing to forego all or part of the annual rent. The amount foregone by the landowners in relation to the costs of the forestry project will form the basis of calculating the share of income to be paid to the landowners as the wood is harvested.

SILVICULTURAL OPERATIONS IN STATE EXOTIC FORESTS

The following silvicultural work was carried out in State exotic forests in 1974–75 (provisional figures):

	Hectares
New planting (including leasehold land)	21 344
Restocking of logged forest	6 092
Pruning (over 95 percent in radiata pine)	16 417
Thinning	19 112
Clear felling	5 175

Forest Service nurseries have raised about 109 million trees for planting in the coming winter.

FORESTRY EXTENSION

Grants and loans under the two forestry encouragement schemes have been approved for a total of 70 000 ha. So far 31 567 ha of forest has been planted, 7915 ha during 1974. Despite the downturn in the economy in the latter part of the year applications are still being received. The area to be planted in 1975 is likely to be close to the increased allocation of 10 000 ha recently approved by the Government.

The development of management groups in various parts of the country is encouraging, as they can provide the necessary organised skilled labour for establishment and subsequent management. A recent survey of farmers indicated that lack of labour and technical expertise, rather than lack of finance, was a major deterrent to development of farm woodlots. The survey also indicated that on occupied farm land there was a large land resource (estimated to be 750 000 ha) either unused or only marginally profitable under present use that could be developed into woodlots.

The maximum loan for local authorities has been increased from $300 to $450 per hectare. Loan conditions have been changed to simplify administration.

A further development in forestry education was the introduction of a 1-week course for farmers and others at Flock House, Bulls, organised in conjunction with Ministry of Agriculture and Fisheries. If there is enough interest similar courses will be held at Telford Training Farm, near Balclutha, and the Forestry Training Centre, Rotorua.

Of major concern to private forest and woodlot growers is an apparent trend for district schemes under the Town and Country Planning Act to make forestry a conditional use of any land. If this practice is adopted in district schemes generally, it will severely curtail the diversification of farm activity and the development of a better balanced rural economy.

FIRE CONTROL

The 1974-75 fire season was an unusual one. An excessively wet winter raised water tables significantly in most areas and there were reasonable expectations of less severe summer conditions than those of recent years. However, a hot dry spell during the Christmas holiday period cured standing fuels, including normally fire-resistant indigenous hardwood species, to produce an extremely dangerous situation. This led to the imposition of the longest total bans yet recorded on fires in the open.

There were three very serious fires in the open. One was in peat at Awanui in Northland and threatened to engulf large tracts of pasture land. A second was started by lightning in Porters Pass. These fires were expensive to contain. A third fire, in which 405 ha of valuable young plantation was lost, resulted indirectly from the cyclone off Westland during mid-March.

Use of helicopters for control of fires in the open, begun in this country 7 years ago, has now found general acceptance. Their principal role is in direct attack with buckets carrying up to 900 litres of water or fire retardant.

Inset 3*

ENVIRONMENTAL FORESTRY

FOREST PARKS AND RECREATION AREAS

State forest parks—Recent developments are discussed on pages 9–10 and gazetted and approved parks are listed in appendix 5. Negotiations to add to Pirongia, Kaimanawa, North-west Nelson, Craigieburn, and Catlins State forest parks are well under way. A major achievement has been the acquisition of Maori land on long-term lease for addition to the Kaimanawa State Forest Park. The total area gazetted as State forest parks should next year be increased by 170 000 ha. It is hoped that Whakarewarewa (Rotorua), Hauhangaroa (West Taupo), and Richmond Range (Nelson) proposed forest parks will also be approved by the Minister of Forests and gazetted, thus bringing the total area gazetted to about 1 180 000 ha.

Recreation areas—Eight State forest recreation areas, four each in the North and South Islands totalling 30 000 ha, have now been gazetted. Ministerial approval has been given for gazetting eight further recreation areas and approval will be sought for additional State forests as recreational demand increases.

Dedicated areas—Under the 1973 amendment to the Forests Act the Minister of Forests may dedicate any State forest land for a particular purpose. Its status cannot be altered without public notification of this intention, and provision is made for the consideration of objections to any change. A number of biological areas are proposed to protect areas of interest to the public and to which they will have ready access. Most contain distinctive flora or fauna or both but are not of such special scientific significance as to justify the restriction of access implied by forest sanctuary status.

HEAPHY TRACK

User survey—This survey, prompted by overuse of the track, often by poorly equipped parties, was conducted over the Christmas-New Year period. Altogether 214 groups totalling 1101 people were interviewed before the survey had to be abandoned because of other demands on staff and partly as a result of visitors' resistance to questioning.

Although nearly half of those questioned were carrying tents, as is recommended, huts on the route were still overcrowded. Ninety of the visitors were judged to be at risk because of lack of knowledge, fitness, adequate food or equipment. Earlier in the year only the exceptional fortitude of a patrolman, ensured the safety of parties marooned during bad weather. In recognition of his efforts he was awarded the M.B.E.

Temporary closure—A section of the Heaphy Track had to be closed temporarily in March because of gale damage. Surprisingly this action was criticised as being overprotective. However, the user survey mentioned above indicated that many of those walking the track are not experienced enough to cope with dangerous situations.

MOUNT HUTT SKIFIELD

The new Mount Hutt Skifield, on State forest land near Methven, promises to become a major winter sports venue. It is already being widely used despite delays in the completion of ski tows by the company developing facilities.

REHABILITATION OF MOUNTAINLANDS

A South Island Mountain Catchments Committee has been formed by the Soil Conservation and Rivers Control Council, supported by the Department of Lands and Survey, the Forest Service, and Federated Farmers. Until the catchments committee has evidence to justify change, the Forest Service will continue to give priority in mountainland rehabilitation to the Kaweka, Ruahine, and Rimutaka Ranges in Wellington Conservancy, the Wairau and Motueka catchments in Nelson Conservancy, the Waimakariri catchment and Mount Fyffe in Canterbury Conservancy, and the Oreti and Mataura catchments in Southland Conservancy.

Under the guidance of scientists of the Protection Forestry Division of the Forest Research Institute, Forest Service staff have developed techniques of aerially oversowing grasses, legumes, and fertilisers and of direct sowing of tree seed that are suitable for large-scale rehabilitation of depleted mountainland.

NOXIOUS ANIMALS

Kaimai Range—The range is the catchment for the Waihou and Ohinemuri Rivers draining into the Hauraki Gulf and for the smaller streams flowing into the Bay of Plenty. All of these waterways flow through high-producing agricultural lands and several of the streams are tapped for domestic water supply. The Kaimai protection forests are therefore of extreme local importance. The frequency of flooding and debris discharge in recent times has caused concern and catchment authorities have begun major river control schemes.

A recent forest survey indicates that wild goats and oppossums have been responsible for the depletion of the high-altitude protection forests and the resultant increase of slipping and debris movement into the stream channels. Control of goats has been undertaken for several years but more intensive measures against these animals and a major reduction in opossum numbers are now needed. Corrective action is under way.

Thar in South Canterbury—The South Canterbury Catchment Board and the Waitaki Catchment Commission have defined the Rangitata and the Waitaki River catchments as priority areas. Thar are the principal noxious animal on these lands and for the past 3 years measures to reduce their numbers have been progressively intensified.

Until recently control has depended mainly on commercial helicopter operators. However, commercial interest in thar is now waning and this coupled with the need for still more intensive control has made it necessary for the Forest Service to mount its own helicopter operations.

OPOSSUM CONTROL AND BOVINE TUBERCULOSIS

Control measures to prevent the reinfestation of cattle with bovine tuberculosis have been continued in the Buller, Inangahua, and Grey Counties on the West Coast. Progress is promising, but is closely allied to the intensity and duration of the control effort. Elimination of opossums from a small area near Tongariro National Park has led to a significant decrease in the incidence of bovine tuberculosis in cattle in that area.

In several other parts of the country it is now evident that the failure of the standard tuberculin test and slaughter of reactors undertaken by the Ministry of Agriculture and Fisheries to arrest the disease in cattle is directly attributable to infection carried by free-ranging opossums. Areas of particular concern are the Waimahora Valley in Otorohanga County, parts of the Taumarunui County, the western bays areas of Taupo, extensive areas of the Wairarapa, and the Hokonui Hills in Southland. Surveys are being undertaken in these regions to define the extent of the areas requiring opossum control and the cost of such control.

MINING

Prospecting and mining applications have been received for 86 000 ha of State forest land, the main areas being Great Barrier Island, Coromandel Peninsula, north-west Nelson, the South Island beech project areas, and the Red Hills in South Westland and North Otago. All include forest land that is being managed for protection, amenity, and recreation purposes.

The Mines Deparment has agreed in principle to the Forest Service's controlling by permit the recovery of greenstone in the gravel country of central Westland and declaring the two State forests in this area "free from mining."

COMMERCIAL DIVISION OPERATIONS

Detailed accounts for the year ended 31 December 1974 with explanatory notes appear in appendix 14.

PROFIT AND APPROPRIATIONS

The tax paid profit of $1,593,879 is an increase of 10.3 percent on the previous year's record profit and represents a return on notional shareholders' funds of 33 percent. The improvement is due to the carry-over of the buoyant conditions experienced in 1973 and an increase in production of 2.5 percent.

Towards the end of the year export markets became increasingly competitive and there was a downturn in trade. There were also difficulties in securing adequate and competitive shipping to service some markets. This together with the fact that export tax incentives will no longer benefit the Commercial Division to the extent of former years, makes it extremely unlikely that current profit levels can be maintained without further diversification of product manufacture and extension into retail trading. Against this uncertain future it was decided to fix a dividend of 14 percent this year, an increase of 1½ percent on 1973. Profits will be appropriated as follows:

	$
Tax paid profit	1,593,879
Transfer to fire insurance reserve ..	43,869
Available for distribution ..	1,550,010
Dividend at 14 percent	338,644
Retained profits	1,211,366

PRODUCTION

Production during the year reached 174 800 m^3. The final stages of re-equipping and modernisation currently being undertaken at both mills will not only improve efficiency but will permit some further expansion of production when market opportunities exist.

STUMPAGES

Observance of the Stabilisation of Prices Regulations has deferred any review of stumpages for individual species. However, as a result of a variation in the input of species the average sawlog stumpage paid by Waipa was reduced to $2.77 per m^3 and that for Conical Hill was increased to $2.22 per m^3.

PRODUCTION, CONSUMPTION, AND TRADE

Because of the date of publication of the annual report, production totals for the year ended 31 March 1975 are not available. Actual production figures given in the sections "Total Wood Production", "Forest Service Production", "Sawn Timber Production", "Pulp and Paper", and "Panel Products" are for the year ended 31 March 1974, while estimates have been made where possible for the year ended 31 March 1975.

TOTAL WOOD PRODUCTION

Total removals of roundwood from all forests are estimated at 8.6 million m^3, 4 percent higher than the 1973-74 total of 8.2 million m^3.

FOREST SERVICE PRODUCTION

A total of 4 059 000 m^3 of roundwood was removed from State forests, an increase of 559 000 m^3 over the year ended 31 March 1973. Of the total, 152 000 m^3 was in the form of posts and poles.

Production of wood from exotic forests increased by 520 000 m^3 to 3 486 000 m^3 and production from indigenous forests rose by 39 000 m^3 to 573 000 m^3. The largest increase was in Rotorua Conservancy, where production rose by 361 000 m^3. There were also increases in Auckland, Nelson, and Southland of 97 000 m^3, 40 000 m^3, and 32 000 m^3 respectively. Production increases were lower in other conservancies and in Canterbury production remained the same as for the year ending 31 March 1973.

SAWN TIMBER PRODUCTION

Production of sawn timber was 2 055 000 m^3, the highest total so far recorded. It is estimated that production for the year ended 31 March 1975 was 2 100 000 m^3.

PULP AND PAPER

Pulp production at 858 000 t (a 43 percent increase on the previous year) was a record. The estimate for the year ended 31 March 1975 is 880 000 t.

Paper and paperboard production increased by 80 000 t to 534 100 t. Newsprint production rose slightly to 218 000 t, while production of other paper and paperboard increased 32 percent, from 240 000 t to 316 000 t. Production of newsprint for the year ended 31 March 1975 is expected to be much as for the previous year and production of other paper and paperboard is expected to be about 330 000 t.

PANEL PRODUCTS

Production of all panel products again rose. Particleboard production increased 65 percent to 120 000 m^3; the estimate for the year ended 31 March 1975 is in excess of 130 000 m^3. Plywood production, at 30 500 m^3, and fibreboard production, at 46 000 t, are expected to be much the same in the year ended 31 March 1975.

EXTERNAL TRADE

The latest available official statistics for trade in forest products are for the year ended June 1974.

Exports of sawn timber—at 247 000 m^3, the volume of sawn timber exported was down, but the value increased by $2.8 million to $13.5 million.

Exports of paper and pulp—The volume of all paper and paperboard decreased, due to a reduction in exports of newsprint by 19 300 t to 103 000 t. Exports of paper other than newsprint and paperboard rose by 16 000 t to 41 000 t. The value of all paper and paperboard exports increased by $4.4 million to $25.5 million. Pulp exports increased 64 percent, chemical pulp by 25 000 t to 159 900 t and mechanical pulp by 64 500 t to 72 000 t. The value of pulp exports increased by $11.5 million to $25.6 million.

Exports of logs—Although the volume exported dropped from 2 000 000 m^3 to 1 400 000 m^3, the returns were much the same.

Imports of forest products—The volume and value of imports increased in 1974. Their total value was $43.4 million c.d.v. (current domestic value) compared with $27.3 million for 1973. The value of log and sawn timber imports increased from $4.3 million to $9.3 million. Less pulp was imported but the value was much the same as in the previous year. Paper and paperboard imports increased from 33 000 t to 46 000 t and their value from $12 million to $19.4 million. Panel products imports were higher, especially those of plywood and veneer; particleboard was imported in quantity for the first time.

RESEARCH AND DEVELOPMENT

RESEARCH

The *Report of the Forest Research Institute* for 1974, published separately, deals fully with the year's research programme.

Logging Industry Research Association—Following discussion with the private sector of the logging industry, the New Zealand Logging Industry Research Association (Inc.) has been established. As with other research associations, it will be jointly funded by the private sector and the Government. It will undertake research into many aspects of logging in New Zealand including the influence of logging practices on soil and water values, logging equipment and methods, the basic factors of the tree crop and terrain that influence logging operations, and the safety, welfare, and training of the people employed in the industry.

Scientific Co-ordinating Committee for Beech Research—A new departure in research administration was made this year with the establishment of the Scientific Co-ordinating Committee for Beech Research, which advises the Minister of Forests directly on research and other scientific aspects relating to the proposals for the increased use of beech forests. The committee has seven members drawn from the Government departments most closely involved in relevant research and two members nominated by the Royal Society of New Zealand. In its first year the committee has given much attention to the recommending of areas for reservation for their scientific and other values, since this aspect is seen to be of high priority.

Douglas fir symposium—A symposium on Douglas fir reviewed the state of our knowledge of this species as a plantation-grown exotic timber tree. In discussing its silvicultural characteristics, timber properties, marketing, and the economics of production the symposium produced a range of views on the reasons for growing it, its profitability, the causes for the current decline in volume increment, and remedial measures that might be taken. This comprehensive examination should serve as a basis from which the future policy on Douglas fir's place in New Zealand forestry can be formulated.

Symposium on the revegetation of mountain lands—The Forest Service has been active in research into the revegetation of mountain lands for over 15 years and it was appropriate that it should sponsor a symposium to review the state of knowledge on this subject. The aspects covered included the climate, catchment conditions, and soils of mountain lands, revegetation methods, the selection of plant species, and the performance of tree species in relation to altitude, site, and climate.

WOOD USE

Utilisation of beech timbers—Projects have been undertaken to provide information needed for the evaluation of any proposals put forward by industry for the utilisation of beech timbers from the South Island project areas. The most important has been a large-scale investigation of sawing, grading, drying, and machining of the four beech species of

commercial interest. Some of the dry timber produced has been sent to industries which use beech to determine the suitability of each of the four species for various end uses and market reaction to the finished products.

Another major investigation has been concerned with updating the grading rules for beech timbers. A survey by the Forest Service has confirmed that beech producers and users are not grading the timber according to the present standard grading rules. Proposed new grading rules have been prepared; these recognise that a close understanding has been developed between producers and users with regard to the grades of timber needed for various end uses.

Further investigations into the suitability of the beech species for veneer and plywood production have shown that slicing offers the best prospects of producing decorative veneers. Provided flitches free of pinhole attack can be obtained, decorative slice-cut veneers can be produced from silver beech, red beech, and hard beech. Rotary peeling is probably more suited to the production of veneers for Construction grade plywood than for production of decorative veneers.

Production and use of indigenous sawn timber—A survey to determine the current production, use, and markets for indigenous sawn timber and veneers showed that a substantial percentage of indigenous timber currently being produced is not being used to best advantage and a significant proportion of timber at present going into building grades could be upgraded to dressing quality by careful sawing and by recutting between defects to produce short clear lengths.

However, it appears that incentives are necessary to encourage the sawmiller to improve recovery of high-quality timber and to discourage the customer from using such timber in situations where lower grades, alternative species, or alternative products would perform as well. Incentives which could be expected to discourage wasteful conversion and misuse of our diminishing indigenous forest resources are acceptance of a "cuttings" or manufacturing grade, increasing the price differential between the higher and lower grades, and concurrently reducing the overall production and hence availability of indigenous timber.

Machine stress grading—A Forest Service officer visited Australia to investigate all aspects of machine stress grading in that country, particularly its commercial application. In Australia nearly all the major radiata pine producers have stress-grading machines for the grading of their framing and structural timbers. Grade recoveries are better than with visual grading, and the economics of the procedure appear favourable.

Machine stress grading has received a boost in Australia because of the introduction of building codes which require stress-graded timber, and because for the first time the grading machines available can perform reliably at high production levels.

Forest Service investigations have indicated that machine stress grading is likely to be equally profitable to sawmillers in New Zealand, and that the availability of machine-graded timber would encourage greater use of timber for engineering purposes.

Standards—The Forest Service has actively contributed to standards committees concerned with timber and wood products. A major assignment has been the revision of the timber grading rules and a draft standard is nearly ready for public comment. The revised rules provide for framing and board grades in Douglas fir, larch, and macrocarpa. This is the first time that these species have been included in the standard. There are new structural grading rules for radiata pine, Douglas fir, and larch to discriminate between grades for use in timber construction.

End-use survey—This survey was designed to provide quantitative information about the end use of wood and wood-based products in New Zealand. The results from the residential buildings phase of the survey have now been processed and a report is being prepared. This will include comprehensive tables giving regional breakdowns of sawn timber and panel products into various categories such as species, grade, and treatment. The field work for the commercial buildings phase of the survey is in its final stages and some results will be available towards the end of 1975. The survey of the manufacturing industries was carried out with the assistance of the Department of Statistics. Results will be available shortly and a report will be published later this year.

Quarantine—Inspection procedures adopted for goods transported in containers are working well for an increasing volume of traffic. Because of the number of dangerous insects intercepted in ship's dunnage, controls have been tightened. All accessible infected dunnage must be removed for fumigation or destruction before a vessel moves to another New Zealand port. Inspection services have had to be expanded at Auckland, Wellington, and Christchurch international airports because of the growth of air freighting.

TIMBER PRESERVATION AUTHORITY

During the year 16 new timber-preservation plants were registered and 20 closed down, leaving 268 plants operating. Three plants which failed to meet the authority's requirements in certain respects were suspended. Intensive sampling at plants was maintained throughout the year.

Completely revised branding and identification regulations were gazetted in August 1974 because of the frequently indifferent standards of branding being achieved. The new mandatory requirements provide for a clearly legible burn brand on or at one end of all preservative-treated sawn timber. Exemptions from this form of branding are fence battens and low-hazard building timbers.

The authority promulgated standard charge sheets for all Lowry and Bethell processes. Plants using these treatments must use these sheets.

Production of boron-treated timber was hindered for a time by a shortage of boron salts caused by a strike at the major production points and shipping delays.

The authority has metricated its specifications.

ENGINEERING DEVELOPMENTS

West Coast beech mapping project—Progress on 1:10 000 topographical mapping has been satisfactory. The first of these maps should be available towards the end of 1975. After last year's failure to procure aerial photography because of the weather, 9300 square kilometres of high level "aerial triangulation" photography covering the whole of the project area was completed in November. Low-level "mapping" photography over parts of 22 of the 24 priority resource units was also completed satisfactorily. The co-operation of the Surveyor-General, Department of Lands and Survey, in giving priority to the beech project mapping is appreciated.

Kaingaroa community centre—A community centre at Kaingaroa to provide a wider range of recreational activities for the village has been advocated by the residents' council. The Government has approved the project in principle. Working drawings are being prepared for a two-storey design which has been accepted by the residents' council.

Better single men's accommodation—It is the policy of the Forest Service to house its workers in urban settings rather than forest villages as in the past. This is possible because of better roads and transport. Single men on stations are now being provided with motel-type accommodation, though more modest than commercial units. The men will have individual bedrooms and kitchens, but will share ablution and recreation facilities. The improved accommodation with landscaped surroundings is expected to attract and retain a more stable work force.

Equipment investigation and development—The Forest Service Engineering Division, in conjunction with industry, has designed, developed, and demonstrated a belt-type tree seedling harvester. The department has four units in service and private nursery operators have two. Others are on order.

Inability to recruit the old type of "roadman" has led to the purchase of a mechanical digger to form and maintain walking tracks. The machine is light enough for transport by helicopter to remote and inaccessible areas.

A spark arrester has been developed for plant used in forests to reduce the risk of fires from exhaust sparks. A detachable arrester has also been provided for vehicles that enter forests occasionally.

Sawmill improvement—As part of the modernisation programme for Waipa Sawmill, a double-arbour circular gangsaw has been installed in the bandmill, replacing a large reciprocating frame saw. The changeover has effectively reduced the heavy vibrations formerly experienced in this part of the mill. The machine is the first of its type to be installed in New Zealand and has created considerable interest.

Communications—Further high-frequency mobile communication stations have been converted to very high frequency: 40 percent of the radio stations are now of very high frequency. Great importance is attached to this conversion programme because the improvement in reliability and clarity greatly assists fire control and other forest management.

The selective calling system which can operate the horn of a vehicle in the forest is being extended. By this means workers considerable distances from a headquarters can be alerted and directed for fire fighting.

OTHER ACTIVITIES

DEVELOPMENT ASSISTANCE

There has been a substantial increase in requests for technical assistance in forestry over the last year (see page 11). Several officers have been seconded to the Ministry of Foreign Affairs for long-term assignments and others have been made available for short-term assistance in the Government's bilateral aid programmes and for multilateral projects sponsored by FAO.

The Fiji Pine Scheme has continued to be one of the major aid projects and at present four departmental officers are seconded to the scheme. As a result of visits and recommendations by the department's Foreign Aid Co-ordinator and by the Director of Engineering the project is receiving equipment and assistance in drawing up long-term plans and in training of local staff. The Fiji Pine Scheme is to become a statutory body in 1975 and the Forest Service's Foreign Aid Co-ordinator has been invited to serve as a non-voting member of the committee of management.

The Senior Forest Extension Officer investigated the feasibility of cattle grazing in the Fiji pine plantations, and another departmental officer was seconded as principal of the Lololo Forestry School, which is training Fiji's forest guards.

Following missions to and from Peru under a Latin American Technical Co-operation Programme, a former Director of Research undertook a 3-month assignment to consider the development of the San Ignacio National Forest in northern Peru. As a result, two departmental officers have now been seconded to Peru and a third will go there shortly.

The Foreign Aid Co-ordinator visited Pakistan and Bangladesh to evaluate possible technical assistance in forestry in these countries. The Pakistani Inspector-General of Forests paid a reciprocal visit to New Zealand and it is expected that a programme for assistance will be drawn up in the near future.

Papua-New Guinea submitted an extensive programme for forestry assistance. The principal of the Timber Industry Training Centre, Rotorua, visited that country to advise on the setting up of a forest industries training centre and to recommend equipment to be provided for village sawmills.

An officer has been seconded to Tonga to be in charge of the Forestry Branch of the Department of Agriculture with headquarters on the island of 'Eua. An afforestation project has already started and the Government sawmill will be renovated and updated.

Investigations have continued into the use and processing of coconut stems, and a special mobile sawmill has been designed for Tonga. A prototype mill will be set up at the Timber Industry Training Centre, and Pacific countries will be invited to send trainees to an operation and maintenance course.

A timber preservation plant has been provided for Western Samoa and a senior scientist has been to Apia to advise on suitable treatments for various indigenous timbers. Another senior scientist was released to FAO as a consultant on forestry development in Samoa.

A forester was included in a team of experts which visited Nepal to advise on the setting up of a national park in the Mount Everest region. The team recommended assistance in the establishment of a park with a managed forest acting as a buffer zone around the park.

The British Solomon Islands Protectorate requested assistance in producing pulpwood as an intermediate income earner in tropical hardwood plantations. These proposals are being evaluated by the Forest Service and a senior scientist has recently visited the islands to assess the feasibility of such a project.

The department's Principal Engineering Officer (Electrical) inspected and reported on electrical services at the Hamadi sawmill in Indonesia. This mill is being managed, under a bilateral aid contract, by New Zealand consultants.

Training and experience in New Zealand was provided during the year under the Government's bilateral aid programme to 11 trainees from Fiji, 3 from Western Samoa, and 2 from Niue. Forestry officers were also accepted from Chile, Nepal, Turkey, and the Philippines under FAO fellowships to study forest management and planning.

OVERSEAS VISITS

The Director-General attended the second session of the FAO Committee on Forestry in Rome and the Tenth Commonwealth Forestry Conference in the United Kingdom, which was also attended by the Conservator of Forests, Wellington.

The Director of the Commercial Division made a timber sales promotion visit to the Middle East as a member of a trade delegation arranged by the Export Institute of New Zealand. He also visited Japan, Korea, and Australia for sales consultations and price negotiations.

The Director of Marketing visited Japan and South Korea for price negotiations and sales promotions and the division's Assistant Director went to the People's Republic of China.

The Director, Protection Forestry Division, Forest Research Institute, attended at the invitation of the National Commission for UNESCO, a meeting in Paris of the panel of experts on ecological effects of different land uses and management practices on temperate and Mediterranean forest landscapes.

An officer from the Forest Research Institute visited various organisations and firms involved in research into harvesting techniques in Britain, Europe and United States to study data gathering and application of results.

The Chief Civil Engineer visited the United States and Canada to study roading, building, and bridging and utilisation and recreational use of forests, particularly the steps taken to minimise environmental damage.

Other officers attended the IUFRO/FAO/ECE/ILO Symposium on Establishment of Forests held in the Netherlands and in Paris, the 23rd Biennial Audit Conference in Australia, the International Symposium on Research and Marketing of South-east Asian Timber and Timber Products in the Philippines, a NAFTA meeting in Canberra, the Eucalypt Plantation Seminar in Australia, the 46th ANZAAS Congress in

Canberra, an FAO forest fire management study tour in United States and Mexico, the Ninth All Australia Timber Congress in Hobart, the 29th APPITA General Conference in Tasmania, and the 5th Australian Legume Nodulation Conference in Brisbane.

TRAINING

Forestry training and education—The decentralisation of the Head Office Training Branch to Rotorua has been commenced. It will have major advantages in bringing the administration of the department's training activities into the one centre and closer to the major forest industries.

An accommodation block of 54 bedrooms and associated facilities at the Forestry Training Centre, Rotorua, has recently been occupied. This is the final stage of the department's programme of replacing the single men huts that have been in use at the centre since 1947.

An overseas recruitment campaign for foresters to strengthen the middle management group was undertaken successfully in 1974, seven officers being recruited from the United Kingdom and North America. They will be working in production forestry, economics, timber utilisation, photogrammetric mensuration, electronic data processing, and general forestry.

Seven forester trainees graduated from the University of Canterbury at the end of 1974. Seven other graduates have also been engaged. Post-graduate study within New Zealand was completed by one forester, and in 1975 one continues and another begins a course. Another forester has been assisted to undertake post-graduate study in mensurational assessment at the University of Tokyo, Japan.

In 1974, a forester exchange programme was begun with a Japanese forestry company, one of whose foresters worked in New Zealand during 1974; a Forest Service forester has been attached for a year to this company in Japan.

Seventeen ranger trainees completed the forest ranger certificate course at the Forestry Training Centre.

Training for industry—Attendances at courses at the Timber Industry Training Centre, Rotorua, during 1974 totalled 624 compared with 474 course members in 1973. The build-up in the number of apprentices, adult trainees, and overseas trainees has necessitated the appointment of two additional tutors, one for timber machining and the other for saw-milling and saw maintenance.

Though the centre is primarily for training workers in New Zealand industry, it catered in 1974 for 67 overseas trainees, from Australia, Fiji, Indonesia, Malaysia, Papua New Guinea, Solomon Islands, and Sweden, who were either sponsored by overseas firms or assisted under New Zealand aid programmes.

APPENDIX 1

Area of State Forest Land as at 31 March 1974*

(Areas in hectares)

Conservancy (1)	Permanent State Forest† Ordinary (2)	Permanent State Forest† National Endowment (3)	Total Area of State Forest Land (4)	State Forest Land as Percentage of Total Land Area of Conservancy (5)
Auckland	345 995	38 313	384 308	12.2
Rotorua	361 217	136 879	498 096	15.8
Wellington	570 479	16 506	586 985	11.2
Nelson	904 644	290 818	1 195 462	42.1
Westland	498 192	230 251	728 443	46.6
Canterbury	263 788	1 476	265 264	6.5
Southland	438 723	28 317	467 040	6.8
Total	3 383 038	742 560	4 125 598‡	15.5

*Figures for year ended 31 March 1975 not available.
†By the Forests Amendment Act 1973/122 the appellation Provisional State Forest no longer applies.
‡Excludes 103 028 hectares administered as State forest land.

Reservations and Withdrawals

	hectares
Land placed under State reservation	.. 60 354
Provisional State forest land permanently reserved	.. 612 523
Areas withdrawn from reservation comprised—	
For settlement	.. 612
For roads	.. 7
For scenic reserves	.. 304
Other	.. 29 080

APPENDIX 2

New Area Planted in State Exotic Forests—by Species

(Area in hectares)

Year Ended 31 March (1)	Radiata pine (2)	Douglas fir (3)	Corsican pine (4)	Other (5)	Total (6)
1953 ..	1 089	344	368	494	2 295
1954 ..	1 157	299	174	364	1 994
1955 ..	1 198	534	194	223	2 149
1956 ..	1 724	486	223	279	2 712
1957 ..	1 514	680	259	380	2 833
1958 ..	1 586	939	409	498	3 432
1959 ..	862	846	599	575	2 882
1960 ..	1 036	680	437	741	2 894
1961 ..	1 926	858	356	761	3 901
1962 ..	2 651	915	603	595	4 764
1963 ..	3 675	749	822	898	6 144
1964 ..	5 075	745	848	775	7 443
1965 ..	5 947	1 571	551	606	8 675
1966 ..	6 115	1 233	844	123	8 315
1967 ..	6 159	1 664	463	302	8 588
1968 ..	7 188	2 008	173	292	9 661
1969 ..	10 240	2 391	272	588	13 491
1970 ..	11 746	2 166	192	683	14 787
1971 ..	12 674	1 435	97	532	14 738
1972 ..	11 795	880	27	311	13 013
1973 ..	15 792	1 107	19	440	17 358
1974 ..	19 673	794	20	472	20 959
1975* ..	19 727	873	15	729	21 344

*Figures for 1975 estimated.

APPENDIX 3

Establishment and Clear Felling in State Exotic Forests

(a) *Totals for Conservancies*

(Area in hectares)

Conservancy	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1975*	Areas Waiting Restocking	Total Productive Area
	New Area Planted	Former Productive Areas Re-stocked By Replanting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Auckland	3 928	839	735	−150	47 992	956	48 948
Rotorua	6 484	3 824	3 079	−1150	165 012	3 283	168 295
Wellington	3 092	331	186	−760	43 286	670	43 956
Nelson	2 693	286	546	−509	36 569	563	37 132
Westland	1 181	11	15	..	9 002	19	9 021
Canterbury	580	494	313	− 43	25 530	2 257	27 787
Southland	3 386	307	301	+ 9	36 066	..	36 066
Total	21 344	6 092	5 175	−2603	363 457	7 748	371 205

(b) *Totals for Both Islands and New Zealand*

(Area in hectares)

Region	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1975*	Areas Waiting Restocking	Total Productive Area
	New Area Planted	Former Productive Areas Re-stocked By Replanting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total North Island, year ended 31 March—							
1975	13 504	4 994	4 000	−2 060	256 290	4 909	261 199
1974	13 248	4 416	3 591	−1 572	243 852	5 227	249 080
1973	10 750	3 303	3 630	− 306	231 209	5 763	236 972
1972	8 004	2 937	3 054	− 807	221 094	6 324	227 418
1971	8 976	2 722	3 113	−1 913	214 014	5 031	219 045
Total South Island, year ended 31 March—							
1975	7 840	1 098	1 175	− 543	107 167	2 839	110 006
1974	7 711	1 474	1 102	− 442	99 947	2 672	102 619
1973	6 608	1 303	1 032	− 334	92 272	3 459	95 731
1972	5 009	2 011	1 493	− 779	85 727	3 461	89 188
1971	5 762	879	1 291	− 287	80 980	4 534	85 514
Total New Zealand, year ended 31 March—							
1975	21 344	6 092	5 175	−2 603	363 457	7 748	371 205
1974	20 959	5 890	4 693	−1 994	343 799	7 899	351 699
1973	17 358	4 606	4 662	− 640	323 481	9 222	332 703
1972	13 013	4 948	4 547	−1 586	306 821	9 785	316 606
1971	14 738	3 601	4 404	−2 200	294 994	9 565	304 559

*Figures for 1975 estimated.

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE EXOTIC FORESTS

(c) *By Forests*

North Island Conservancies

(Area in hectares)

Conservancy and Forest	Stocked Area at 31 March 1973	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1974*	Area Awaiting Restocking	Total Productive Area
		New Area Planted	Former Productive Areas Restocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Auckland—								
Athenree ..	659	..	53	24	+72	760	24	784
Aupouri ..	3 397	1 178	..	10	+ 8	4 573	30	4 603
Glenbervie ..	2 499	374	..	7	..	2 866	7	2 873
Great Barrier ..	41	..	..	..	..	41	..	41
Katikati ..	19	..	..	..	..	19	..	19
Coromandel ..	444	..	..	2	..	442	2	444
Mangawhai ..	689	183	..	..	..	872	..	872
Maramarua ..	4 330	..	214	159	−18	4 367	194	4 561
Omahuta ..	492	..	..	3	−58	431	3	434
Puhipuhi ..	496	..	52	11	−13	524	54	578
Puketi ..	108	..	..	..	..	108	..	108
Pureora ..	2 423	368	..	7	..	2 784	7	2 791
Riverhead ..	4 004	..	242	210	..	4 036	210	4 246
Russell ..	38	..	..	..	..	38	..	38
Tairua ..	6 592	468	..	34	−10	7 016	542	7 558
Tainui-Kawhia ..	46	115	..	..	..	161	..	161
Tawarau ..	24	118	..	..	− 2	140	..	140
Waipoua ..	2 150	69	102	48	− 4	2 269	140	2 409
Waitangi ..	1 673	193	19	27	−74	1 784	30	1 814
Waiuku ..	1 089	..	2	24	− 1	1 066	140	1 206
Whangapoua ..	2 472	465	..	..	..	2 937	..	2 937
Woodhill ..	6 439	466	23	52	..	6 876	52	6 928
Total ..	40 124	3 997	797	618	−100	44 110	1 435	45 545
Rotorua—								
Haparangi ..	233	..	..	..	− 4	229	..	229
Horomoro ..	984	..	..	..	− 39	945	..	945
Kaingaroa ..	105 758	892	3 442	2 049	−911	107 132	2 986	110 118
Lake Taupo ..	5 175	1 482	..	..	− 28	6 629	..	6 629
Mangamu ..	6 869	838	..	..	− 21	7 626	..	7 626
Manutahi ..	130	..	..	..	..	130	..	130
Maruiti ..	155	..	..	..	..	155	..	155
Paruanamu ..	1 926	125	..	..	− 5	2 050	..	2 050
Rotoehu ..	5 173	305	..	60	..	5 418	..	5 418
Rotoiti ..	1 372	1 036	..	..	..	2 408	..	2 408
Tihoi ..	523	53	..	..	− 25	601	..	601
Waiumbia ..	16 563	676	..	469	− 34	17 130	..	17 130
Whaka ..	4 054	75	141	98	− 9	4 159	..	4 159
Whakarata ..	1 599	145	..	..	..	1 744	..	1 744
Whirinaki ..	2 434	201	..	55	− 3	2 577	..	2 577
Total ..	153 282	5 818	3 583	2 731	−1 019	158 933	2 986	161 919
Wellington—								
Awarohonu ..	202	819	..	..	− 4	1 017	..	1 017
Erua	1 690	..	..	..	..	1 690	7	1 697
Esk	3 364	200	..	..	−205	3 359	..	3 359
Gwavas ..	4 256	397	40	87	+ 4	4 610	119	4 729
Kaitoi ..	6 889	29	28	57	+ 6	6 895	161	7 056
Kaweka ..	3 475	288	..	..	− 13	3 750	..	3 750
Lismore ..	1 653	220	..	..	..	1 873	..	1 873
Moawhe ..	3 793	349	..	..	−245	3 897	245	4 142
Murimotu ..	13	..	..	..	..	13	..	13
Mount Bruce ..	13	..	..	..	..	13	..	13
Ngaumu ..	5 747	314	..	37	..	6 024	37	6 061
Rangataua ..	362	..	..	..	− 6	356	..	356
Rhodines ..	135	..	..	..	..	135	..	135
Sanson ..	2 320	240	44	..	− 1	2 503	83	2 586
Tangimoana ..	114	34	..	..	..	148	1	149
Taruna ..	357	..	..	..	..	357	..	357
Te Wera ..	960	41	..	..	..	1 021	..	1 021
Tiraumea ..	23	..	..	..	..	23	..	23
Tongariro ..	1 046	..	..	..	..	1 046	..	1 046
Waitahere ..	1 215	67	14	61	− 11	1 247	153	1 400
Waiotauru ..	310	86	..	..	..	396	..	396
Rimutaka ..	88	10	..	..	..	98	..	98
Raupunga ..	..	48	..	..	..	48	..	48
Rotoaira ..	..	291	..	..	..	291	..	291
Total ..	37 946	3 439	126	242	−453	40 809	806	41 616

*Figures for year ended 31 March 1975 not available.

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE EXOTIC FORESTS

(c) *By Forests*—continued

South Island Conservancies

(Area in hectares)

Conservancy and Forest	Stocked Area at 31 March 1973	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1974*	Area Awaiting Restocking	Total Productive Area
		New Area Planted	Former Productive Areas Restocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Nelson—								
Dumgree	68	..	..	41	..	27	..	27
Golden Downs	22 855	1 182	383	443	− 3	23 974	265	24 239
Hira	1 960	379	..	..	− 8	2 331	..	2 331
Hukawai	145	..	..	..	..	145	..	145
Inangahua West	12	..	..	..	+ 66	78	..	78
Moruka	2 080	161	..	..	+ 34	2 275	..	2 275
Queen Charlotte	..	135	..	..	..	135	..	135
Rawhangaroa	2 761	251	..	..	+ 1	3 013	..	3 013
Tawhai	475	38	..	3	+ 9	519	..	519
Waimea	..	275	..	..	..	275	..	275
Wairau	1 257	392	..	..	+ 33	1 682	..	1 682
Waitahu	76	115	..	..	..	191	..	191
Total	31 689	2 928	383	487	+ 132	34 645	265	34 910
Westland—								
Granville	281	..	..	..	..	281	..	281
Hochstetter	1 231	58	..	..	..	1 289	..	1 289
Hohonu	49	9	..	..	..	58	..	58
Ianthe	172	14	..	..	..	186	..	186
Kamere	153	133	..	..	..	286	..	286
Mahinapua	840	..	5	−15	− 10	820	28	848
Mawhera	1 394	523	..	..	..	1 917	..	1 917
Nemora	1 006	24	..	..	..	1 030	..	1 030
Omoto	564	192	..	..	..	756	..	756
Paparoa	53	..	..	..	..	53	..	53
Waimea	1 103	21	..	..	..	1 124	..	1 124
Wanganui	25	..	..	..	..	25	..	25
Total	6 871	974	5	−15	− 10	7 825	28	7 853
Canterbury—								
Ashley	4 438	440	205	98	− 2	4 983	168	5 151
Balmoral	7 603	31	192	119	− 66	7 641	199	7 840
Eyrewell	4 393	..	376	69	..	4 700	1 838	6 538
Geraldine	1 780	74	..	3	..	1 851	3	1 854
Hanmer	3 664	..	14	67	..	3 611	95	3 706
Island Hills	185	4	..	..	..	189	..	189
Mt. Thomas	284	85	..	..	− 10	359	..	359
Omihi	1 091	..	99	..	− 49	1 141	77	1 218
Oxford	337	..	..	..	..	337	..	337
Total	23 775	634	886	356	−127	24 812	2 380	27 192
Southland—								
Beaumont	1 943	15	42	38	+ 11	1 973	..	1 973
Berwick	4 922	653	7	19	..	5 563	..	5 563
Herbert	1 334	52	9	17	− 2	1 376	..	1 376
Hokonui	2 365	..	45	30	− 69	2 311	..	2 311
Longwood*	3 540	486	9	4	+ 9	4 040	..	4 040
Naseby	1 400	40	18	16	− 26	1 416	..	1 416
Otago Coast	4 205	556	..	..	−100	4 661	..	4 661
Owaka	723	201	6	..	+ 1	931	..	931
Ranfleburn	2 650	230	7	..	−257	2 630	..	2 630
Rewallan	723	207	..	..	− 8	922	..	922
Silverpeaks	428	72	18	..	− 18	500	..	500
Slopetown	1 259	330	..	..	..	1 589	..	1 589
Tamaroa	408	269	..	..	..	677	..	677
Tautuku	..	64	..	..	..	64	..	64
West Tapanui	4 051	..	39	120	+ 42	4 012	..	4 012
Total	29 951	3 175	200	244	−417	32 665	..	32 665

*Figures for year ended 31 March 1975 not available.
†Otautau and Woodlaw have been absorbed by Longwood.

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE FORESTS FOR THE YEAR ENDED 31 MARCH 1974

(d) *By Species*

(Area in hectares)

Conservancy and Species	Stocked Area at 31 March 1973	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1974*
		New Area Planted	Former Productive Areas Restocked by Planting	Area Clear Felled with Yield		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Auckland—						
Radiata pine ..	30 641	3 713	707	450	+ 23	34 634
Douglas fir ..	1 654	284	..	..	..	1 938
Corsican pine ..	2 093	..	..	58	— 11	2 024
Other species ..	5 736	..	..	110	— 112	5 514
Total ..	40 124	3 997	707	618	— 100	44 110
Rotorua—						
Radiata pine ..	86 289	5 616	3 216	1 242	+ 560	94 439
Douglas fir ..	22 463	176	363	137	+ 1 208	24 073
Corsican pine ..	11 535	..	..	687	+ 314	11 162
Other species ..	32 995	26	4	665	— 3 101	29 259
Total ..	153 282	5 818	3 583	2 731	— 1 019	158 933
Wellington—						
Radiata pine ..	20 547	3 259	123	163	— 170	23 596
Douglas fir ..	5 583	7	..	7	— 102	5 481
Corsican pine ..	2 806	..	..	16	— 112	2 678
Other species ..	9 010	167	3	56	— 69	9 055
Total ..	37 946	3 433	126	242	— 453	40 810
Nelson—						
Radiata pine ..	21 556	2 598	307	128	+ 36	24 369
Douglas fir ..	5 164	254	76	38	— 6	5 450
Corsican pine ..	2 682	..	..	148	..	2 534
Other species ..	2 287	76	..	173	+ 102	2 292
Total ..	31 689	2 928	383	487	+ 132	34 645
Westland—						
Radiata pine ..	4 723	932	5	15	..	5 645
Douglas fir ..	456	..	..	..	..	456
Corsican pine ..	121	..	..	..	..	121
Other species ..	1 571	42	..	..	— 10	1 603
Total ..	6 871	974	5	15	— 10	7 825
Canterbury—						
Radiata pine ..	13 954	494	884	254	— 56	15 022
Douglas fir ..	2 349	29	..	..	— 1	2 376
Corsican pine ..	4 101	..	..	41	— 60	4 000
Other species ..	3 370	111	2	60	— 10	3 413
Total ..	23 774	634	886	355	— 127	24 811
Southland—						
Radiata pine ..	20 354	3 061	158	86	— 221	23 266
Douglas fir ..	3 129	44	10	..	— 155	3 028
Corsican pine ..	3 574	20	4	138	— 18	3 442
Other species ..	2 894	50	28	20	— 23	2 929
Total ..	29 951	3 175	200	244	— 417	32 665
New Zealand—						
Radiata pine ..	198 064	19 673	5 400	2 338	+ 172	220 971
Douglas fir ..	40 798	794	449	182	+ 944	42 802
Corsican pine ..	26 912	20	4	1 088	+ 113	25 961
Other species ..	57 863	472	37	1 084	— 3 223	54 065
Total ..	323 637	20 959	5 890	4 692	— 1994	343 799

NOTES—(1) Non-productive afforestation for erosion control is excluded from this appendix.

(2) "Other changes" (column 6) includes purchase or sale of stocked forest, previous year's seeding or regeneration now considered established, clear felling without yield, losses due to fire, corrections due to resurvey, etc.

APPENDIX 4

Pruning and Thinning in State Exotic Forests for the Year Ended 31 March 1975*

(Area in hectares)

Conservancy and Species	Pruning					Thinned During Year	
	Area Pruned During Year			Total Pruned Area to Date			
	Total Area Pruned	To First Log	To Second Log	To First Log	To Second Log	With Yield	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Auckland—							
Radiata pine ..	1 063	359	..	6 028	782	540	1 095
Douglas fir ..	2	..	..	62	..	..	..
Corsican pine ..	..	..	..	..	..	..	..
Other species ..	..	..	..	1 064	123	13	18
Total ..	1 065	359	..	7 154	905	553	1 113
Rotorua—							
Radiata pine ..	8 038	1 589	..	17 796	810	777	6 705
Douglas fir ..	34	..	..	3 996	7	..	5
Corsican pine ..	..	..	..	2 138	53	..	..
Other species ..	134	..	..	2 985	9	..	..
Total ..	8 206	1 589	..	26 915	879	777	6 710
Wellington—							
Radiata pine ..	1 967	436	..	4 947	45	305	2 259
Douglas fir ..	..	..	..	284	..	3	..
Corsican pine ..	..	..	..	239	109	15	..
Other species ..	29	..	..	2 489	12	105	..
Total ..	1 996	436	..	7 959	166	428	2 259
Nelson—							
Radiata pine ..	1 473	659	..	2 682	135	..	1 393
Douglas fir ..	..	..	..	1 028	1	58	6
Corsican pine ..	..	..	..	1 555	..	..	..
Other species ..	6	..	..	122	..	..	10
Total ..	1 479	659	..	5 387	136	58	1 409
Westland							
Radiata pine ..	651	418	..	369	53	..	241
Douglas fir ..	..	..	..	..	..	..	..
Corsican pine ..	..	..	..	..	..	..	..
Other species ..	7	..	..	59	..	..	..
Total ..	658	418	..	428	53	..	241
Canterbury—							
Radiata pine ..	689	123	..	1 791	401	107	1 035
Douglas fir ..	19	19	..	215	..	..	15
Corsican pine ..	4	..	..	1 099	1	..	7
Other species ..	2	2	..	134	..	10	..
Total ..	714	144	..	3 239	402	117	1 057
Southland—							
Radiata pine ..	2 173	236	..	3 108	34	133	3 942
Douglas fir ..	69	..	..	295	..	58	21
Corsican pine ..	57	..	..	448	5	81	21
Other species ..	..	..	..	206	17	26	108
Total ..	2 299	236	..	4 057	56	298	4 092
New Zealand—							
Radiata pine ..	16 054	3 820	..	36 721	2 260	1 862	16 670
Douglas fir ..	124	19	..	5 880	8	119	47
Corsican pine ..	61	..	..	5 479	168	96	28
Other species ..	178	2	..	7 059	161	154	136
Total ..	16 417	3 841	..	55 139	2 597	2 231	16 881

*Estimated.

Notes—(1) "Total Area Pruned" (column 2) includes pruning to intermediate steps, e.g., 0–2.7 m, 5.5–8.2 m.

(2) "To First Log" (columns 3 and 5) is pruning reaching 4.9–6.1 m. "To Second Log" (columns 4 and 6) is pruning reaching 9.8 m.

(3) Where pruning has gone from below first log up to second log in one operation the area has been included in columns (3) and (4).

APPENDIX 5

State Forest Parks 1974–75

Forest Park	Conservancy	Area (hectares)	Gazetted* or Approved
Tararua	Wellington ..	111 917	Gazetted 14 Sep 1967
Craigieburn ..	Canterbury ..	4 451	Gazetted 26 Oct 1967
Kaimanawa ..	Wellington ..	77 610	Gazetted 2 Oct 1969
North-west Nelson ..	Nelson	358 772	Gazetted 10 Sep 1970
Coromandel ..	Auckland ..	66 576	Gazetted 5 May 1971
Pirongia	Auckland ..	12 890	Gazetted 20 May 1971
Rimutaka	Wellington ..	14 080	Gazetted 10 Aug 1972
Kaweka	Wellington ..	60 832	Gazetted 31 Jan 1974
Lake Sumner ..	Canterbury ..	73 895	Gazetted 4 July 1974
Haurangi	Wellington ..	15 148	Gazetted 16 Dec 1974
Catlins (part) ..	Southland ..	20 136	Gazetted 6 March 1975
Catlins (remainder) ..	Southland ..	36 473	Awaiting gazettal
Ruahine	Wellington ..	93 432	Awaiting gazettal
Kaimai-Mamaku ..	Rotorua ..	40 200	Approved in principle

*Total area of gazetted forest parks at 31 March 1975 is 816 307 hectares.

APPENDIX 6

Total Wood Removals from State Forests for the Year Ended 31 March 1975*

(Volume in thousand cubic metres)

Conservancy	Indigenous			Exotic			Grand Total
	Logs	Smallwood	Total	Logs	Smallwood	Total	
Auckland ..	83	3	86	347	34	381	467
Rotorua ..	163	..	163	2 552	59	2 611	2 774
Wellington ..	41	..	41	106	20	126	167
Nelson ..	102	1	103	241	..	241	344
Westland ..	239	1	240	3	..	3	243
Canterbury ..	..	..	..	120	7	127	127
Southland ..	32	..	32	156	27	183	215
Total—1974–75*	660	5	665	3 525	147	3 672	4 337
1973–74†	570	3	573	3 337	149	3 486	4 059
1972–73†	531	3	534	2 862	104	2 966	3 500

*Estimated figures only.
†Actual.

Notes—(1) This table shows all roundwood removed from State forests under licences, permits, and log sale agreements.
(2) Roundwood for particle board production is included with logs.

APPENDIX 7

Total Smallwood Removals from State Forests

(Volume in cubic metres)

Category	Year Ended 31 March				
(1)	1970 (2)	1971 (3)	1972 (4)	1973 (5)	1974 (6)
Posts—					
Indigenous	595	963	850	651	701
Exotic	78 154	100 440	70 197	87 500	123 646
Total ..	78 749	101 403	71 047	88 151	124 347
Other fencing material—					
Indigenous	793	878	425	566	261
Exotic	5 663	7 759	4 616	4 163	12 903
Total ..	6 456	8 637	5 041	4 729	13 164
Poles—					
Indigenous	..	57	57	..	5
Exotic	14 668	13 082	9 401	9 684	9 376
Total ..	14 668	13 139	9 458	9 684	9 381
Other—					
Indigenous	2 577	2 010	2 067	2 322	2 723
Exotic	3 058	4 899	4 587	2 747	2 649
Total ..	5 635	6 909	6 654	5 069	5 372
Total smallwood—					
Indigenous	3 965	3 908	3 399	3 539	3 690
Exotic	101 543	126 180	88 801	104 094	148 574
Total ..	105 508	130 088	92 200	107 633	152 264

Note—Chipwood for particle board production is excluded from this table and is included with "logs" in appendix 6.

APPENDIX 8

Total Wood Removals from State Indigenous Forests by Method of Sale for the Year Ended 31 March 1974

(Volume in cubic metres; value in $(000))

Conservancy	Logs		Smallwood		Total	
	Volume	Value	Volume	Value	Volume	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(a) *Sales of Standing Timber*						
Auckland	40 723	217	732	1	41 455	218
Rotorua	95 057	241	65	..	95 122	241
Wellington	37 965	204	323	2	38 288	206
Nelson	89 256	151	1 458	2	90 714	153
Westland	155 486	370	444	1	155 930	371
Canterbury	..	..	..	..	..	..
Southland	26 565	90	105	..	26 670	90
Total—1973–74	445 052	1 273	3 127	6	448 179	1 279
1972–73	423 959	1 368	3 001	6	426 960	1 374
1971–72	418 296	1 201	3 256	8	421 552	1 209
(b) *Sales of Logs*						
Auckland	27 312	364	..	..	27 312	364
Rotorua	60 964	776	..	..	60 964	776
Wellington	..	..	..	..	..	..
Nelson	8 822	91	..	..	8 822	91
Westland	27 871	318	..	..	27 871	318
Canterbury	..	..	..	..	..	..
Southland	542	6	..	..	542	6
Total—1973–74	125 511	1,555	..	..	125 511	1,555
1972–73	106 839	1,309	538	2	107 377	1,311
1971–72	103 413	1,129	142	1	103 555	1,130

Notes—(1) Logs include saw logs and peeler logs.
(2) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 9

Total Timber Removals from State Exotic Forests by Method of Sale for the Year Ended 31 March 1974

(Volume in cubic metres; value in $(000))

Conservancy	Logs		Smallwood		Total	
	Volume	Value	Volume	Value	Volume	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(a) *Sales of standing timber*					
Auckland ..	223 699	860	29 534	64	253 233	924
Rotorua	1 266 362	2 086	29 199	52	1 295 561	2 138
Wellington ..	91 757	440	26 182	66	117 939	506
Nelson	62 716	58	57	..	62 773	58
Westland ..	989	2	..	..	989	2
Canterbury ..	106 713	450	16 914	47	123 627	497
Southland ..	36 306	128	15 422	37	51 728	165
Total—1973–74 ..	1 788 542	4 024	117 308	266	1 905 850	4 290
1972–73 ..	1 472 901	2 669	87 017	165	1 559 918	2 834
1971–72 ..	1 398 654	2 268	604 791	126	1 465 425	2 394
	(b) *Sales of logs*					
Auckland ..	111 152	1 072	3 550	31	114 702	1 103
Rotorua	1 092 001	7 717	22 687	194	1 114 688	7 911
Wellington ..	17 000	166	338	3	17 338	169
Nelson	181 699	771	82	1	181 781	772
Westland ..	..	..	..	..	..	..
Canterbury ..	13 278	90	606	3	13 884	93
Southland ..	133 672	953	3 975	32	137 647	985
Total—1973–74 ..	1 548 802	10 769	31 238	264	1 580 040	11 033
1972–73 ..	1 389 366	11 026	17 076	123	1 406 442	11 149
1971–72 ..	1 461 489	8 872	22 031	160	1 483 520	9 032

Notes—(1) Logs include saw logs, pulp logs, and peeler logs.
(2) This appendix has been adjusted to exclude any log exports by contractors from sales of standing timber and to include them in the sales of logs. Tables (a) and (b) have been corrected for the years shown.
(3) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 10

Removals of Exotic Roundwood from State Forests by Thinnings and Clear Fellings

(Volume in cubic metres)

Forest	Year Ended 31 March 1974					1972–73
	Logs		Smallwood		Total	
	Thinnings	Clear Fellings	Thinnings	Clear Fellings		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Athenree	..	8 054	..	994	9 048	9 458
Aupouri	..	879	2 172	899	3 950	2 350
Glenbervie	40	3 049	3 132	61	6 282	3 455
Maramarua	995	81 467	2 681	2 671	87 814	68 838
Omahuta	..	1 803	..	6	1 809	..
Puhipuhi	..	8 405	424	467	9 296	8 637
Riverhead	..	97 450	171	149	97 770	78 154
Tairua	5 626	17 023	370	100	23 119	7 278
Waipoua	..	16 031	..	2 572	18 603	10 336
Waitangi	..	5 957	654	1 616	8 227	6 371
Waiuku	7 300	7 545	5 541	190	20 576	19 228
Wangapoua	..	33	419	..	452	396
Woodhill	43 912	25 391	4 743	..	74 046	50 829
Others*	..	3 891	2 974	78	6 943	340
Kaingaroa	302 772	1 746 836	6 096	41 356	2 097 060	1 937 155
Minginui	17 040	..	..	..	17 040	1 954
Patunamu	2 130	3 321	70	..	5 521	1 585
Rotoehu	201	23 801	..	1 736	25 738	30 780
Waimihia	103 566	91 563	..	..	195 129	23 758
Wairakei	..	16 722	..	..	16 722	..
Whaka	15 871	34 541	51	2 576	53 039	54 736
Esk	396	12	485	53	946	..
Gwavas	5 042	21 930	831	1 539	29 342	24 863
Karioi	3 224	22 386	2 169	6 597	34 376	32 394
Kaweka	..	..	..	..	..	4 276
Lismore	..	1 841	..	..	1 841	3 256
Mohaka	..	..	..	642	642	..
Ngaumu	19 451	3 253	5 904	2 059	30 667	16 905
Santoft	..	2 548	3 433	..	5 981	2 123
Tangimoana	..	..	..	..	..	736
Te Wera	..	..	105	..	105	..
Tongariro	..	288	..	591	879	28
Waitarere	..	28 398	1 112	1 053	30 563	25 626
North Island	527 566	2 274 418	43 537	68 005	2 913 526	2 425 845
Dumgree	..	5 180	..	..	5 180	623
Golden Downs	6 190	231 127	14	68	237 399	238 599
Rai-Whangamoa	498	1 133	..	..	1 631	85
Others	..	..	..	..	..	397
Mahihapua	..	..	..	..	..	821
Ashley	50	26 213	30	1 601	27 894	10 477
Balmoral	..	33 184	7 008	1 459	41 651	54 283
Eyrewell	..	24 158	..	620	24 778	39 672
Hanmer	268	34 826	206	6 222	41 522	32 509
Others*	..	1 298	107	271	1 676	1 104
Beaumont	..	31 553	..	..	31 553	43 438
Berwick	5 716	..	114	2 367	8 197	7 165
Herbert	..	..	392	1 699	2 091	2 916
Hokonui	14 052	29 151	4 073	584	47 860	20 331
Longwood	6 171	..	1 504	1 216	8 891	764
Naseby	1 367	4 369	1 378	1 718	8 832	6 796
West Tapanui	3 159	71 398	230	4 107	78 894	78 693
Others*	..	..	10	..	10	1 841
South Island	37 471	493 590	15 066	21 932	568 059	540 514
New Zealand	565 037	2 768 008	58 603	89 937	3 481 585	2 966 359

*Includes forests producing less than 280 m³.

APPENDIX 11

New Zealand Forest Service Sawmilling Operations

(a) *Production of Sawn Timber**

(Volume in cubic metres)

Sawmill	Year Ended 31 December				
	1970	1971	1972	1973	1974
(1)	(2)	(3)	(4)	(5)	(6)
Waipa	106 078	104 316	110 611	141 807	143 079
Conical Hill	24 236	26 392	24 318	28 691	31 756
Total production ..	130 314	130 708	134 929	170 498	174 835

*Includes sleepers.

(b) *Sales of Sawn Timber*

(Volume in cubic metres)

Details	Year Ended 31 December				
	1970	1971	1972	1973	1974
(1)	(2)	(3)	(4)	(5)	(6)
New Zealand sales—					
Green	28 884	31 396	39 524	41 396	40 836
Air seasoned	8 318	7 193	10 849	9 573	2 429
Kiln dried	4 606	5 481	3 370	2 863	1 586
Treated—					
Wet	27 729	27 950	30 910	45 259	56 090
Dry	3 035	3 835	5 686	6 500	7 813
Total	72 572	75 855	90 339	105 591	108 754
Export sales—					
Green	37 651	37 547	42 307	43 842	36 366
Air seasoned	8 323	4 960	290	182	595
Kiln dried	2 262	1 722	1 189	2 101	1 340
Treated	5 962	3 627	1 578	4 106	4 959
Total	54 198	47 856	45 364	50 231	43 260
Transfers to box factory ..	2 236	3 573	2 854	3 705	12 985*
Grand total ..	129 006	127 284	138 557	159 527	164 999

*Includes commissioning of remanufacturing facilities at Conical Hill.

(c) *Subsidiary Processing of Sawn Timber*

Year Ended 31 December 1974

	Cubic Metres
Quantity kiln dried	23 525
Quantity dressed	74 363
Quantity preservative treated* ..	82 783

*For further details see appendix 12.

APPENDIX 12

Forest Produce Treated

(a) *Sawn Timber Treated by the New Zealand Forest Service*

(Volume in cubic metres)

Location of Plant and/or Year	Preservative				Total
	Boron	Tanalith	Boliden	PCP*/ Fuel Oil	
(1)	(2)	(3)	(4)	(8)	(6)
Waipa	45 426	..	15 918	219	61 563
Conical Hill	16 976	4 244	..	..	21 220
Total, year ended 31 December—					
1974	62 402	4 244	15 918	219	82 783
1973	59 184	..	12 549	375	72 108
1972	31 061	..	10 321	222	41 604
1971	23 163	..	8 665	193	32 021
1970	29 075	..	9 163	144	38 382

*Pentachlorophenol.

(b) *Other Timber Treated by the New Zealand Forest Service*

Type and Year	Conical Hill	Waipa		Total	
	Tanalith	Boliden	PCP*/ Fuel Oil	Quantity	Volume
(1)	(2)	(3)	(4)	(5)	(6)
	(Quantities in thousands)				(cubic metres)
Poles	0.3	10.9	8.7	19.9	4 287
Stockyard posts	..	..	0.6	0.6	57
Fencing posts	40.0	176.0	107.4	323.4	7 373
Strainers	1.9	19.2	4.1	25.2	1 817
Stays	1.1	..	4.4	5.5	160
Sawn battens	33.6	311.3	..	344.9	90
Sleepers†	..	..	79.8	79.8	5 377
Other	..	6.3	6.5	12.8	917
			(Volume in cubic metres)		
Total, year ended 31 December—					
1974	1 417	7 220	11 441	N.A.	20 078
1973	1 472	6 201	10 081	N.A.	17 754
1972	2 095	5 720	15 263	N.A.	23 078
1971	2 633	8 608	12 459	N.A.	23 700
1970	3 341	7 985	11 355	N.A.	22 681

*Pentachlorophenol. †Excluding rejects.

(c) *Total Forest Produce Treated in New Zealand (Forest Service and Private)*

Year	Number of Plants	Treated Sawn Timber m^3	Other Treated Timber—Poles Sleepers, etc m^3	Percentage of Total Sawn Timber Treated
1963–64	199	540 204	125 185	34.4
1964–65	213	650 180	190 737	37.4
1965–66	242	716 260	249 719	40.1
1966–67	260	715 316	243 093	40.5
1967–68	271	624 928	233 720	39.2
1968–69	295	657 024	270 758	38.0
1969–70	290	712 484	241 054	39.5
1970–71	271	716 968	284 406	38.7
1971–72	270	662 924	273 306	37.9
1972–73	265	768 652	246 066	43.0
1973–74	262	939 636	237 685	45.7

Source: Department of Statistics.

APPENDIX 13

Employment and Training

(a) *Staff and Labour*

Category	Strength, 31 March 1974*	Commenced During Year	Left During Year	Strength, 31 March 1975
(1)	(2)	(3)	(4)	(5)
Staff	2 731	610	400	2 941†
Labour—				
Thinning, logging, milling ..	874	1 127	1 102	899
Other forestry operations ..	1 715	4 626	4 147	2 194
Control of noxious animals ..	155	296	241	210
Cadet woodsmen	97	99	..	99
Total	2 841	6 148	5 490	3 402
Total staff and labour	5 572	6 758	5 890	6 343

(b) *Training*

Category	Year Ended 31 March		
	1973	1974	1975
(1)	(2)	(3)	(4)
Forester trainees—			
Recruited during year	15	25	16
Studying for degrees in New Zealand ..	43	53	49
Ranger trainees—			
Recruited during year	21	22	22
Under field training	74	92	90
At ranger schools	22	25	27
Research technicians—			
Recruited during year	8	8	16
Under training	30	28	25
Woodsmen—			
Recruited during year	60	98	99
At woodsmen schools	124	140	179
Clerical cadets—			
Recruited	29	25	41

*Revised.
†Includes employees on leave without pay and part-time workers.

REPORT OF THE AUDIT OFFICE

To the Director-General of Forests.

The Audit Office, acting under statutory authority, has audited the accounts of the Commercial Division, New Zealand Forest Service, for the year ended 31 December 1974.

The audit included such reviews of the accounting procedures and tests of the accounting records and other supporting evidence as were considered necessary in terms of section 20, Public Revenues Act 1953. All the information and explanations required have been obtained. The financial transactions which have come under notice have been within statutory authority.

In the opinion of the Audit Office the attached balance sheet, accompanying accounts, notes numbered 1 to 9, and statement of source and application of funds give a true and fair view of the state of affairs of the Commercial Division as at 31 December 1974 and of the results of the financial operations for the year.

K. GILLIES, Controller and Auditor-General.

7 May 1975.

APPENDIX 14

New Zealand Forest Service Commercial Division

Accounts for the Year Ended 31 December 1974

A. Operating Account

Year Ended 31 December 1973			Year Ended 31 December 1974	
$	*$*		*$*	*$*
	11,848,702	Gross value of production		13,322,081
		Less—		
3,892,792		Cost of logs (note 1)	4,306,121	
4,335,589		Manufacturing expenses (note 2)	4,585,171	
1,239,052		Selling and distribution expenses (note 3)	1,465,650	
891,359		Administration and financial expenses (note 4)	1,047,892	
	10,358,792			11,404,834
	1,489,910	Operating profit		1,917,247
	30,584	Less net expenditure on employee accommodation (note 5)		63,497
	1,459,326	Profit before income tax		1,853,750
	Nil	Provision for income tax		257,800
	$1,459,326	Profit for year		$1,595,950

B. Profit and Loss Appropriation Account

Year Ended 31 December 1973			Year Ended 31 December 1974	
$	*$*		*$*	*$*
	1,459,326	Net profit from operating account		1,595,950
	4,829(P)	Less loss on sale and disposal of assets		2,071
	1,464,155			1,593,879
	20,024	Less payroll tax		Nil
	1,444,131	Tax paid profit		1,593,879
150,000		Less appropriation to fire insurance reserve	43,869	
244,917		Proposed dividend	338,644	
	394,917			382,513
	1,049,214	Retained profits		1,211,366
	2,962,224	Plus balance 1 January		4,004,727
	4,011,438			5,216,093
	6,711	Less adjustments relating to previous year (note 6)		15,462
	$4,004,727	Accumulated profits		$5,200,631

C. Balance Sheet

Year Ended 31 December 1973 $	$		Year Ended 31 December 1974 $	$
		Funds employed—		
	2,716,486	Advances of Government funds		2,992,979
	4,004,727	Accumulated profits		5,200,631
		Represented by the following notional capital apportionment:		
843,202		Bank overdraft	934,874	
1,959,337		Term finance	2,418,912	
1,959,337		Accumulated profits and reserves	2,418,912	
1,959,337		Share capital	2,418,912	
6,721,213			8,191,610	
	6,721,213			8,191,610
	431,613	Reserve for fire losses		475,000
	$7,152,826			$8,666,610
		Current assets—		
1,782,734		Sundry debtors including prepayments (note 7)	2,049,260	
2,070,439		Stocks and stores (note 8)	3,040,412	
	3,853,173			5,089,672
		Fixed assets at cost less depreciation (note 9)—		
2,667,894		Plant, equipment, and tools	2,977,267	
843,406		Buildings	972,321	
368,041		Houses and employee accommodation	450,249	
6,157		Furniture and fittings	20,986	
530,290		Other installations	640,153	
	4,415,788			5,060,976
	8,268,961			10,150,648
		Less—		
871,218		Current liabilities	887,594	
244,917		Proposed dividend	338,644	
		Provision for income tax	257,800	
	1,116,135			1,484,038
	$7,152,826			$8,666,610

The notes which follow form part of and are to be read in conjunction with these accounts.

M. J. Conway, Director-General.

A. A. B. Webby, Director, Commercial Division.

D. Notes on the Accounts

1. *Cost of Logs*

Expenses of logs to mill and other roundwood extracted under contract to delivery point, after adjusting for opening and closing stock. Includes an average stumpage for all supplies, both clear fellings and thinnings, as follows:

	1974	1973	1972
Waipa—			
Cents per cu ft ($ per m^3) ..	7.85	8.0	5.5
	(2.77)	(2.84)	(1.94)
Conical—			
Cents per cu ft ($ per m^3) ..	6.3	5.24	3.75
	(2.22)	(1.85)	(1.32)

2. *Manufacturing Expenses*

Expenses of manufacturing and processing into finished products in mill yard.

3. *Selling and Distribution Expenses*

Direct wages and salaries of sales staff and yard staff involved in preparing finished products for sale, together with all expenses from mill gate to point of sale.

4. *Administration and Financial Expenses*

	1974	1973	1972
Includes:			
Interest paid ..	$175,841	$204,094	$130,516
Audit fee	$1,778	$1,918	$1,701

5. *Net Expenditure on Employee Accommodation*

Excess of direct outgoings over actual rents determined by agreement between the State Services Commission and the Combined State Services Organisation and the New Zealand Timber Workers' Union.

6. Back pay to log delivery contractors.

7. *Sundry Debtors*

Is the net amount after deducting the following:

	1974	1973	1972
Provision for doubtful debts	$153,679	$123,000	$53,000
Provision for discounts ..	$10,497	$10,933	$8,822

8. *Stocks and Stores*

This item comprises:

Logs and timber stocks ..	$2,301,498	$1,608,209	$1,839,031
General stores ..	$738,914	$462,230	$422,058

9. *Fixed Assets:*

	Original Cost at 31 December 1974	Cumulative Depreciation to 31 December 1974	Additions 1974	Deletions 1974
	$	$	$	$
Plant, equipment, and tools	6,868,260	3,890,994	783,105	146,779
Buildings	1,617,017	644,695	171,529	9,014
Houses and employee accommodation ..	819,967	368,513	95,430	..
Furniture and fittings ..	37,033	16,047	16,252	..
Other installations ..	962,377	323,429	123,764	..
	10,304,654	5,243,678	1,190,080	155,793

Depreciation provided in 1974 was $517,930; in 1973, $487,075; in 1972, $417,149.

E. Source and Application of Funds

	1974 $	1973 $	1972 $
Net funds from operations—			
Tax paid profit	1,578,417	1,444,131	449,585
Depreciation	517,930	487,075	417,149
Increase in advances from Government	274,493	..	1,509,114
Proceeds from sale of fixed assets	26,480	24,905	24,695
Decrease in current assets	..	751,923	..
Increase in current liabilities	274,176	183,895	..
Total funds available	2,671,496	2,891,929	2,400,543
These funds were applied in—	1974	1973	1972
Acquisition of fixed assets	1,190,080	912,846	923,589
Increase in current assets	1,236,499	..	219,995
Decrease in current liabilities	..	..	1,256,959
Decrease in advances from Government	..	1,770,456	..
Payment of dividend	244,917	208,627	..
	2,671,496	2,891,929	2,400,543

F. Highlights

	1974	1973	1972
Gross value of production ($000)	13,322	11,849	9,169
Production (000 bd ft)	74 084	72 291	57 210
Total personnel employed	873	847	811
Total remuneration to employees ($000)	4,905	4,318	3,337
Tax paid profit $	1,593,879	1,444,131	449,765
Proposed dividend $	338,644	244,917	208,627
Retained profits $	1,211,366	1,049,214	190,958
Percentage of profits retained	76	72	48
Total assets ($000)	10,150	8,269	8,627
Working capital ($000)	2,671	1,894	2,519
Total funds employed ($000)	8,666	7,153	7,731

G. Statistics

	1974	1973	1972
Dividend rate (percent)	14	12.5	10
Number of times covered by profit	4.7	5.9	2.2
Tax paid profit to—			
(a) Shareholders funds (percent)	32.9	36.8	10.8
(b) Gross sales (percent)	11.9	12.2	4.9
(c) Share capital (percent)	65.9	73.7	21.5
(d) Total funds employed (percent)	18.4	17.5	5.8
Current assets to:			
(a) Current liabilities	2.4:1	2.0:1	2.2:1
(b) Stocks	1.7:1	1.9:1	2.0:1

REPORT OF THE AUDIT OFFICE

To the Director-General of Forests.

The Audit Office, acting under statutory authority, has audited the accounts of the New Zealand Forest Service for the year ended 31 December 1974.

The audit included such reviews of the accounting procedures and tests of the accounting records and other supporting evidence as were considered necessary in terms of section 20, Public Revenues Act 1953. All the information and explanations required have been obtained. The financial transactions which have come under notice have been within statutory authority.

In the opinion of the Audit Office the attached balance sheet and accompanying accounts give a true and fair view of the state of affairs of the Forest Service as at 31 December 1974 and of the results of the financial operations for the year.

K. Gillies, Controller and Auditor-General.

20 May 1975.

APPENDIX 15

New Zealand Forest Service Accounts for the Year Ended 31 December 1974

(a) General Administration Account

Year Ended 31 December 1973			Year Ended 31 December 1974	
$	*$*		$	$
		Charges incurred directly in respect of—		
79,867		Fire prevention and precaution and administration of fire districts	107,161	
3,425,393		Technical investigations, research, etc.	4,055,345	
357,386		Assistance to public and private forestry	484,693	
167,233		Timber inspection and termite control	166,721	
668,822		Control of noxious animals	829,978	
1,059,859		Work for other departments	1,359,471	
325,650		Staff training, including Rotorua training centre	415,730	
229,464		Payments to local authorities for roading purposes (fifths)	242,661	
6,313,674			7,661,760	
1,062,816		*Less* fees for inspection, recoveries from other departments, etc.	1,784,728	
	5,250,858			5,877,032
		General administration expenses—		
4,968,347		Staff expenses, including salaries, overtime, travelling, and general expenses	4,811,175	
880,534		Office expenses, including postages, stationery, and general expenses	818,925	
566,806		Maintenance and depreciation of administrative buildings, equipment, etc.	922,608	
296,594		Miscellaneous general expenses	465,768	
6,712,281			7,018,476	
2,839,885		*Less* amounts charged against forests and other activities as "overhead"	3,385,320	
13,669		*Less* amounts charged against mills as "overhead"	16,935	
	3,858,727			3,616,221
	9,109,585			9,493,253
	75,728	*Less* miscellaneous revenue		82,055
	$9,033,857	Net deficit in Administration Account transferred to Consolidated Revenue Account in balance sheet		$9,411,198

(b) Forest Development and Management Accounts (excluding Waipa and Conical Hill Sawmills)

Year Ended 31 December 1973			Year Ended 31 December 1974	
$	*$*		$	$
5,331,103		Establishment	6,360,678	
1,700,324		Tending	2,526,673	
892,635		Protection	1,344,162	
6,553,819		Maintenance of assets and miscellaneous expenses	7,792,990	
741,027		Depreciation of assets	1,440,137	
2,839,885		Overhead charged to forests and credited to General Administration Account	3,385,320	
11,781,435		Cost of utilisation	10,259,828	
	29,840,228			33,109,788
		Less—		
23,186,834		Sale of logs	22,343,109	
3,955,003		Sales of standing timber	4,257,545	
377,118		Miscellaneous revenue	521,088	
	27,518,955			27,121,742
	$2,321,273	Net costs transferred to "development and management" in the balance sheet		$5,988,046

APPENDIX 15—continued

NEW ZEALAND FOREST SERVICE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 1974—*continued*

(c) Consolidated Balance Sheet

Year Ended 31 December 1973			Year Ended 31 December 1974	
$	*$*		*$*	*$*
	10,775,827	Fixed assets (at cost)—		
		Land taken over or purchased		12,018,165
17,664,397		Buildings, including houses and camps	19,387,596	
21,941,927		Roads, bridges, tracks, etc.	24,762,734	
16,032,962		Plant and vehicles	18,262,891	
5,929,935		Other assets	6,751,199	
61,569,221			69,164,420	
15,624,698		*Less* provision for depreciation	17,319,074	
	45,944,523			51,845,346
		Development and management (net costs)—		
60,606,566		Balance as at 1 January 1974	62,927,839	
2,321,273		*Plus* net costs for the year	5,988,046	
	62,927,839			68,915,885
	1,295,191	Forestry Encouragement Loans*		1,484,968
		Current assets—		
6,744,515		Sundry debtors	6,706,255	
123,000		*Less* provision for bad debts (departmental mills)	153,679	
	6,621,515			6,552,576
	2,650,460	Stocks and stores (at cost)		4,411,965
		Intangible assets—		
	36,183,323	Interest capitalised but not charged against specific assets		39,985,344
	166,398,678	Total assets		185,214,249
		Capital—		
69,036,200		National Development Loans	80,672,748	
11,636,548		*Plus* net payments for year	15,274,395	
	80,672,748			95,947,143
43,275,011		Consolidated Revenue Account	39,960,796	
5,719,642		*Plus* net payments for year	6,172,173	
48,994,653			46,132,969	
9,033,857		*Less* net deficit in General Administration Account	9,411,198	
39,960,796			36,721,771	
39,023,598		*Plus* accumulated interest on National Development Loans	43,001,460	
	78,984,394			79,723,231
		Accumulated profits and reserves—		
4,004,727		Profits of Waipa and Conical Hill Sawmills	5,200,631	
533,315		Fire and other reserves	566,005	
	4,538,042			5,766,636
		Current liabilities—		
156,428		Cash held on deposits	111,350	
156,428		*Less* cash held against same	111,350	
	2,203,494	Sundry creditors		3,777,239
	$166,398,678			$185,214,249

*Approximately only half repayable in terms of Forestry Encouragement Loans Regulations 1967.

M. J. CONWAY, Director-General.
D. L. HARD, Chief Accountant

APPENDIX 16

PRODUCTION OF ROUGH SAWN TIMBER FOR THE YEAR ENDED 31 MARCH 1974

(a) *By Species*

(Volume in cubic metres)

Region	Indigenous								Exotic				All Species			Sawmills Registered 31 March 1974
	Rimu and Miro	Matai	Totara	Kahikatea	Kauri	Tawa	Beech	Minor Species	Exotic Pines	Douglas Fir	Eucalypts	Minor Species	Indigenous	Exotic	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Conservancy—																
Auckland ..	33 176	5 190	1 306	2 410	2 143	2 504	2	1 985	179 299	83	1 670	2 266	50 716	183 318	234 034	100
Rotorua ..	59 269	4 026	1 935	2 959	..	7 722	4 062	496	837 433	150 728	2 348	10 176	80 469	1 000 685	1 081 154	60
Wellington ..	37 942	7 080	3 327	4 510	24	505	144	250	168 276	7 132	559	4 493	53 782	180 460	234 242	81
Nelson	27 839	45	19	1 378	..	..	4 071	92	71 005	11 116	33	614	33 444	82 768	116 212	61
Westland ..	113 063	658	73	14 236	..	..	2 773	2	267	..	..	..	130 805	267	131 072	26
Canterbury ..	36	..	2	..	..	..	..	..	134 577	2 530	330	734	38	138 171	138 209	56
Southland ..	14 918	135	184	950	2	..	15 928	83	79 485	5 563	21	2 513	32 200	87 582	119 782	43
North Island—																
1973–74 ..	132 387	16 296	6 568	9 879	2 167	10 731	4 208	2 731	1 185 008	157 943	4 577	16 935	184 967	1 364 463	1 549 430	231
1972–73 ..	140 385	17 565	9 010	12 043	3 033	14 733	637	938	977 344	141 383	3 177	6 438	198 344	1 128 342	1 326 686	237
1971–72 ..	152 355	16 824	9 872	13 752	3 830	22 913	314	1 749	927 393	130 843	1 890	18 578	221 609	1 078 704	1 300 313	239
South Island—																
1973–74 ..	155 856	838	278	16 564	2	..	22 772	177	285 334	19 209	384	3 861	196 487	308 788	505 275	186
1972–73 ..	140 665	722	258	16 362	..	68	23 820	180	257 108	15 892	649	3 122	182 074	276 771	458 845	185
1971–72 ..	150 795	859	297	17 018	14	24	22 621	219	240 188	13 400	647	1 126	191 847	255 361	447 208	197
New Zealand—																
1973–74 ..	288 243	17 134	6 846	26 443	2 169	10 731	26 980	2 908	1 470 342	177 152	4 961	20 796	381 454	1 673 251	2 054 705	417
1972–73 ..	281 050	18 287	9 268	28 405	3 033	14 801	24 457	1 118	1 234 452	157 275	3 826	9 560	380 416	1 405 113	1 785 531	422
1971–72 ..	303 149	17 683	10 169	30 770	3 844	22 937	22 934	1 968	1 167 582	144 243	2 537	19 704	413 456	1 334 065	1 747 521	436

NOTE.—(1) This table is based on statistics collected by the New Zealand Forest Service in connection with the annual registration of sawmills.
(2) Indigenous "Minor Species" (column 9) for 1973–74 include—taraire, 472 m³; tanekaha, 205 m³; hinau, 1477 m³; rewarewa, 245 m³; puriri, 61 m³; other and unspecified, 268 m³.
(3) Exotic "Minor Species" (column 13) for 1973–74 include—larch, 11 347 m³; macrocarpa, 8069 m³; poplar, 238 m³; redwood 494 m³; other and unspecified, 828 m³.
(4) This table includes the production of sawn sleepers, 8395 m³ as produced in 1973–74.

APPENDIX 16—continued

Production of Rough Timber for the Year Ended 31 March 1974—*continued*

(b) *By Land Ownership*

(Volume in cubic metres)

Region	Indigenous					Exotic				Grand Total
	State Forest Land	Unoccupied Crown Land	Maori Land	Private Land and Crown Leasehold	Total	State Forest Land	Local Authority Land	Company and Private Land	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Conservancy—										
Auckland	26 451	..	1 942	22 323	50 716	101 865	3 179	78 274	183 318	234 034
Rotorua	45 723	..	20 357	14 389	80 469	456 197	555	543 933	1 000 685	1 081 154
Wellington	24 936	..	7 002	21 844	53 782	75 317	15 611	89 532	180 460	234 242
Nelson	27 022	33	..	6 389	33 444	47 618	31	35 119	82 768	116 212
Westland	95 712	11 963	1 368	21 762	130 805	267	..	..	267	131 072
Canterbury	..	..	..	38	38	52 128	48 257	37 786	138 171	138 209
Southland	11 970	..	15 925	4 305	32 200	51 760	14 856	20 966	87 582	119 782
North Island—										
1973–74	97 110	..	29 301	58 556	184 967	633 379	19 345	711 739	1 364 463	1 549 430
1972–73	102 766	..	36 929	58 649	198 344	518 492	16 157	593 693	1 128 342	1 326 686
1971–72	95 323	9 707	38 959	77 620	221 609	467 549	7 394	603 761	1 078 704	1 300 313
South Island—										
1973–74	134 704	11 996	17 293	32 494	196 487	151 773	63 144	93 871	308 788	505 275
1972–73	118 222	5 683	18 491	39 679	182 074	145 765	35 150	95 856	276 771	458 845
1971–72	126 416	420	27 041	37 970	191 847	146 150	30 739	78 472	255 361	447 208
New Zealand—										
1973–74	231 814	11 996	46 594	91 050	381 454	785 152	82 489	805 610	1 673 251	2 054 705
1972–73	220 988	5 683	55 420	98 327	380 418	664 257	51 306	689 550	1 405 113	1 785 531
1971–72	221 739	10 127	66 000	115 590	413 456	613 699	38 133	682 233	1 334 065	1 747 521

APPENDIX 17

Production of Pulp and Paper in New Zealand

(Quantity in tonnes)

Year Ended 31 March	Wood Pulp			Fibreboard	Paper and Paperboard		
	Mechanical	Chemical*	Total		Newsprint	Other Paper and Paperboard	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1965 ..	206 636	196 127	402 763	32 245	187 275	128 844	316 119
1966 ..	221 238	196 282	417 520	34 313	198 745	156 012	354 757
1967 ..	208 641	227 453	436 094	33 406	186 837	173 170	360 007
1968 ..	224 709	256 494	481 203	33 606	198 685	178 755	377 440
1969 ..	234 682	259 093	493 775	38 903	202 732	193 043	395 775
1970 ..	244 980	316 888	561 868	40 188	207 413	238 585	445 998
1971 ..	258 948	317 074	576 022	44 354	213 917	247 965	461 882
1972 ..	262 627	317 998	580 625	45 526	218 021	250 766	468 787
1973 ..	260 543	339 502	600 045	44 730	213 231	240 226	453 457
1974 ..	392 689	465 300	857 989	45 968	217 831	316 304	534 135

*Includes semi-chemical pulp.

APPENDIX 18

Estimated New Zealand Production of Forest Products in Roundwood Equivalent and Actual Roundwood Removals for the Year Ended 31 March 1974

(Volume in thousand cubic metres)

Category	Indigenous Wood	Exotic Wood	Total
(1)	(2)	(3)	(4)
Logs for export	8.1	1 392.3	1 400.4
Chips for export	61.6	289.7	351.3
Sawn timber	762.6	3 960.0	4 722.6
Pulp and pulp products	66.2	2 998.1	3 064.3
Peelers, veneer, and plywood	11.7	69.2	80.9
Smallwood and miscellaneous	7.0	297.0	304.0
Total (roundwood equivalent)	917.2	9 006.3	9 923.5
Less waste used in pulp production—			
Sawmill residues	..	1 217.3	1 217.3
Waste paper	..	129.1	129.1
Total roundwood removed—			
1973–74	917.2	7 659.9	8 577.1
1972–73	889.1	7 353.8	8 242.9
1971–72	948.6	7 016.9	7 965.5
1970–71	1 013.7	7 181.2	8 194.9

Note—(1) Smallwood and miscellaneous is estimated. Total derived from recorded production in State forests and estimated production in private forests using an area basis. (2) Firewood is excluded. (3) Waste paper does not include broke or trimmings from producers' own machines.

APPENDIX 19

External Trade of New Zealand in Forest Products

(a) *Imports of Timber*

Calendar Year	Sawn Timber							Total Sawn Timber	Sleepers	Logs and Poles
	Hardwoods			Softwoods						
	Australian	Oak	Other	Douglas Fir	Redwood	Cedar	Other			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
				(Volume in cubic metres)						
1968 ..	9 729	226	6 935	4 823	3 752	10 921	2 242	38 628	269	14 583
1969 ..	9 904	170	10 798	4 202	7 131	11 412	1 843	45 460	64	13 224
1970 ..	10 362	241	15 739	6 334	4 283	11 700	772	49 429	5	14 328
1971 ..	10 008	42	10 034	3 672	1 944	7 610	866	34 179	..	12 544
1972 ..	10 672	201	7 033	2 445	4 526	6 256	1 867	33 000	..	12 459
1973 ..	6 374	120	12 817	4 260	14 351	8 229	2 414	48 565	..	9 146
				(Value in $(000))						
1968 ..	633	17	417	283	221	707	142	2 420	17	366
1969 ..	682	19	721	307	576	949	149	3 403	4	345
1970 ..	737	33	1 251	499	368	1 127	62	4 077	..	674
1971 ..	773	9	826	256	197	630	79	2 770	..	474
1972 ..	757	28	555	208	479	559	166	2 752	..	432
1973 ..	614	19	1,345	501	1,959	1,282	244	5,964	..	399

(b) *Exports of Timber*

Calendar Year	Indigenous			Exotic					Total Sawn Timber	Sleepers	Logs and Poles	Chips
	Beech	Other	Total	Radiata Pine		Douglas Fir	Other	Total				
				Sawn	Cases							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
					(Volume in cubic metres)							b.d.u.*
1968	797	8 887	9 684	150 174	6 874	47 650	465	205 163	214 847	..	1 440 815	..
1969	1 055	8 887	9 942	175 564	5 718	58 727	1 295	241 304	251 246	33	1 671 597	..
1970	4 328	9 134	13 462	181 287	4 767	60 655	6 680	253 389	266 851	..	1 820 600	69 848
1971	2 473	5 873	8 346	216 683	2 872	63 283	12 764	295 602	303 948	16	1 821 194	85 466
1972	2 348	4 300	6 648	150 764	2 917	67 437	12 414	233 531	240 180	..	1 855 826	89 441
1973	2 624	3 967	6 591	171 768	1 385	61 900	13 938	248 991	255 582	..	1 784 418	96 267
					(Value in $(000))							
1968	50	548	598	4 130	490	2 147	13	6 780	7 378	..	16 507	..
1969	67	520	587	5 283	139	2 797	80	8 299	8 886	2	22 550	..
1970	229	761	990	6 218	250	2 920	320	9 708	10 698	..	24 830	1 793
1971	135	547	682	7 896	194	3 066	494	11 650	12 332	7	28 548	2 179
1972	121	375	496	5 154	193	3 398	414	9 159	9 655	..	30 642	2 491
1973	180	396	576	7 426	88	4 119	582	12 215	12 791	..	35 773	3 477

Source: Department of Statistics; prepared by the New Zealand Forest Service.

Note—The basis for valuation is: imports, c.d.v.; exports, f.o.b.

*b.d.u. = bone dry unit; 1 b.d.u. = 1 090 kilograms of oven dry wood.

APPENDIX 19—continued

EXTERNAL TRADE OF NEW ZEALAND IN FOREST PRODUCTS—*continued*

(c) *Imports of Pulp and Paper*

Calendar Year	Wood Pulp	Fibreboard	Paper and Paperboard		
			Newsprint	Other Paper and Paperboard	Total
(1)	(2)	(3)	(4)	(5)	(6)
		(Quantity in tonnes)			
1968	10 411	15 979*	688	24 517	25 205
1969	11 077	3 344*	787	18 756	19 543
1970	18 860	11 055*	494	28 160	28 654
1971	14 627	2 415*	493	19 751	20 244
1972	12 340	6 317*	447	38 678	39 125
1973	15 010	4 224*	7 634	36 422	44 056
		(Value in $(000))			
1968	987	8	109	7,834	7,943
1969	1,235	1	123	8,987	9,110
1970	3,260	3	80	10,150	10,230
1971	1,142	1	79	9,004	9,083
1972	1,637	10	74	11,320	11,394
1973	2,139	7	998	13,444	14,442

(d) *Exports of Pulp and Paper*

Calendar Year	Wood Pulp	Fibreboard	Paper and Paperboard		
			Newsprint	Other Paper and Paperboard	Total
(1)	(2)	(3)	(4)	(5)	(6)
		Quantity in tonnes			
1968	94 032	1 097 464*	119 590	17 728	137 318
1969	79 883	1 913 431*	120 339	27 303	147 642
1970	97 579	1 436 467*	118 578	26 450	145 029
1971	100 454	2 109 549*	126 885	18 119	145 004
1972	118 756	2 315 329*	124 410	28 831	153 241
1973	203 670	1 663 610*	111 258	26 443	148 401
		(Value in $(000))			
1968	6,864	431	16,093	2,490	19,014
1969	6,746	725	15,769	3,635	19,404
1970	9,127	653	15,276	4,521	19,797
1971	9,765	1,038	16,018	3,697	19,715
1972	11,478	1,158	15,728	5,095	20,760
1973	19,449	921	15,041	7,130	22,174

*In square metres.

Source: Department of Statistics; prepared by the New Zealand Forest Service.

NOTE—(1) "Other Paper and Paperboard" excludes manufactures of paper and paperboard; values of "Other Paper and Paperboard" include minor items for which no quantities are given.
(2) Basis for valuation: imports, c.d.v.; exports, f.o.b.

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